Lectures
ON
PRACTICAL LEGAL MEDICINE.

Being the Post-Graduate Course delivered at St. Mary's Hospital,

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LECTURE I.

GENTLEMEN,—In a short course of four lectures it would be impossible for me to go deeply into the wide subject of legal medicine, nor would any good purpose be served by a general survey of the theoretical aspects of the question. I have chosen, therefore, to bring before you such lessons as I have learnt from practical study, and to present them to you with a hope that they may at least serve you in good stead in your own future investigations. It has often surprised me how good common sense has saved a man from making the most grievous blunders whilst instituting inquiry into problems complicated, and therefore difficult. We learn most by our mistakes, and I want you to see the occasion on which those mistakes are likely to be made.

My first lecture will treat chiefly of Inquest Practice—that department of forensic medicine in which all of you are certain at some time or other to be personally engaged. A coroner's inquisition must be held *super visum corporis*—that is, "if there be no view, the inquisition is void." It becomes, then, the paramount duty of medical men to do all in their power to bring cases in which the cause of death is unknown before the notice of the coroner, who will decide upon the information laid whether an inquest be necessary. If the cause of death is unknown, the deceased may have died directly or remotely from some form of violence. In such cases an inquest must be held to determine when, where, and by what means the death happened. The 27th regulation for house-surgeons at this hospital runs as follows: "The house-surgeon shall take care that any death resulting, however remotely, from accidental injury or violence be reported to the coroner immediately." Do not be persuaded, either by the importunity of others or through want of confidence as to the correctness of your own diagnosis and treatment, in a case that has proved fatal, to give a certificate of death, unless, "to the best of your belief," you are certifying that which a coroner's jury would in all probability find to be true. It would be infinitely better to be found wrong in an opinion honestly given than to lay yourself open to the charge of an attempt to evade legal process. A great scandal would arise if exhumation of a body were ordered in consequence of a medical man having carelessly, recklessly, or fraudulently given a death certificate. Whilst speaking of exhumation, I may say that a coroner has power to order the disinterment of a body "privately and secretly buried," and where the deceased person "died not of a natural but a violent death." He can also do it if the burial has inadvertently taken place. Only last month such a mishap occurred. A woman was certified to have died from "chronic lead poisoning," and was buried in the ordinary way. The death having arisen from unnatural causes, exhumation was imperatively demanded in order that an inquest might be held. If the interment has been made in compliance with the terms of the statute, the order for exhumation rests with the Home Secretary.

A few words concerning insurance against accidents and the duties of medical men relative thereto. If a person insured against death from accident dies from an injury within the time specified in the policy of insurance, his representatives can of course claim compensation. Now, inasmuch as the policies of some insurance companies contain a proviso that the claim cannot be sustained if the death be due "wholly or in part" to disease having no causal relation to the accident—even if such disease be but the result of natural decay,—you will see at once that damages could not be recovered in the majority of cases unless on appeal a superior court were to decide that the aforesaid proviso was *ultra vires*, and therefore not binding. I say in the majority of cases; for I believe that most people killed by accident are the subjects of some organic disease, active or degenerative, incipient or pronounced; and obviously certain injuries—e.g., a severe concussion or strain—would most likely tell with maximum severity on the weakest spot. A man with fatty heart would die from syncope; a second, with atheroma of the cerebral arteries, from apoplexy; and a third, with a thin-walled sacculus of the bladder, from peritonitis consequent on rupture; and yet such might, save for the accident, have reached the natural term of life. Do not imagine I am romancing; such cases are matter of history. You will agree with me that it is highly important to make a post-mortem examination as early as possible to determine what is due to accident and what to disease. As medical men, it would be well for you, on the death of a patient, to ask the relatives if the deceased's life was insured, and if so to impress upon them the advisability of at once communicating the facts to the insurance company, and to inform them of the time and place of the necropsy and inquest, so that they may send a representative if they think fit. Were these measures systematically executed many cases of litigation would be avoided.

I need scarcely say that where a claim for compensation is made the person conducting the post-mortem examination should minutely observe all the organs and tissues, and at once reduce to writing the results of such observation. At the inquest he must be extremely careful in describing pathological signs and in correlating them. Especially must he take care not to confound the causes of death with the modes of dying. Let me give an example: In all forms of asphyxial death the organs will be found congested, but it would be incorrect to say that congestion of this or that organ was the cause of death, as such a statement would be too exclusive, and might be seized upon by counsel to prove that an alleged injury was not the *causa causans* of the death. The general practitioner will not think me presumptuous when I advise him to be fortified in these matters by the aid of an experienced pathologist. It is one thing to make a careful observation and collection of facts, and another to make logical inferences from the same. On one occasion I heard a witness depose that the body of a man unknown, who was found drowned, was that of a lunatic, because the brain was congested. He based his conclusion on the fact that he had seen the brains of six persons who had died insane, and they were all congested.

The importance of giving accurate evidence as to fact and opinion at the inquest may reach beyond the present inquiry. A criminal charge may arise out of the finding of the jury, and a coroner can be compelled to produce the depositions at the trial. As regards civil actions he can do as he pleases, for in that case they are his sole property, but a copy can sometimes be obtained for a monetary consideration. Your evidence given at the inquest, then, may be dissected in another court, and, to say the least, it would be inconvenient to have to amend it there. Concerning the advisability of insisting upon making a post-mortem examination in cases where the cause of death is at all doubtful, I believe the medical practitioner can claim it as a right, and is in duty bound to decline to give a certificate of death, or state an opinion equivalent to the same before the coroner, if he has any reasonable doubt that justice will not be satisfied without the information obtainable from a necropsy. But there are cases, for example, where a man is killed by a buffer accident, in which it would be blameworthy if a medical man refused to assist at the inquisition unless he is allowed to make a post-mortem examination. He may not be able to swear to the proximate cause of death, but this does not matter so long as the main question is decided how the death was compassed. It is true that the coroner has the power, if he so wills, to order a post-mortem in every case of death within his jurisdiction; but he is accountable to the magistrates for his expenditure of funds raised by the public rates, and it would be an abuse of his prerogative were he to use it to the full. A coroner is by virtue of his election a magistrate of the peace, and not seldom he has to exercise his double function.

Wherever the reputation of a medical man or the character or freedom of any person is at stake, no inquisition can be complete without a post-mortem examination. The merest suspicion of culpability is sufficient warrant for the coroner to insist on such examination. Let me quote you two cases by way of illustration. In August, 1885, a child suffering

from shortness of breath was taken to a private surgery. The doctor on duty gave the patient a draught. Soon afterwards fatal asphyxia supervened. The father insisted that his child had been poisoned by the draught; but on examination I found that an abscess of the bronchial glands had burst into the trachea, and a quantity of caseous matter had caused suffocation. The inquest in the second case was held on December 10th, 1886. A man was charged with causing the death of a boy by striking him on the head, but the house surgeon at the London Hospital deposed that the cause of death was pyæmia from suppuration of the middle ear. The boy was said to have enjoyed robust health until he received the alleged injury, although on inquiry it transpired that there had been discharge from the ear for twelve years. I have known many such cases, and believe they are far from rare. I advise you, if you come across a case of pyæmia of doubtful origin or of cerebral abscess, to examine carefully the petro-mastoid bone. I have already spoken of the desirability of conducting post-mortem examinations early. This is especially important where a volatile poison is suspected to have been taken or administered. It is generally understood that in such cases the chances of detection of the poison become remote after the lapse of a few hours. It is true the odour quickly vanishes from the room, or even from the body, and yet sufficient poison may remain in the blood for a complete analysis. Some years ago I proved the truth of this assertion, for on the third day from the death I was able to identify prussic acid in blood taken from the heart, both by its smell and by chemical experiment. If you suspect prussic acid poisoning, take with you a clean glass plate and a solution of nitrate of silver, moisten the plate with the solution and hold the wet surface over (but not in contact with) the natural fluids of the body *in situ*—for example, the blood, urine, and the cerebro-spinal fluid in the lateral ventricles.

I will now discuss certain physical signs the subject of almost daily inquiry in the police courts and before the coroner. Medical men are required to interpret the value of these signs from a medico-legal standpoint. I refer especially to (1) *scalp wounds*, (2) *bruises*, and (3) *general emaciation*.

I have shuddered inwardly when I have read in the newspaper reports that Dr. So-and-so testified that certain linear *scalp wounds* must have been inflicted by sharp instruments. The mistake is a very common one, but none the less grave for that. Now if you consider that a blunt instrument such as a rolling-pin or kerbstone striking the cranial vertex may expand its force in a linear direction on account of the curvature of the bones, you will understand how the wound may on a cursory examination seem to be an incised one. Close inspection will reveal that the divided vessels are torn, and *not* cut. Suppose for a moment that a man is seen to threaten another with a knife, and in the struggle that ensues a linear scalp wound is inflicted, the presumption would be that the knife had made the wound, and yet from what I have just said you will see that it is quite possible such might not be the case; the distinction on surgical grounds might not be of much importance, but to the accused it would probably mean the difference of between a short term of imprisonment and penal servitude.

The subject of *bruises* is a very complex one. You will be asked to say regarding a certain bruise the mode of infliction, the amount of force used, and the approximate age. The first of these questions calls for no special comment, for unless there is something definite in the shape of the bruise you could only give a very guarded opinion. As regards *the force employed*, there is ample scope for careful inquiry. Other things being equal, the extent of the bruise will vary as the violence which caused it; but there are many disturbing influences. A very slight blow over a bony prominence may cause a very large bruise; on the contrary, if the part struck is resilient, fatal injuries may be inflicted on the deeper structures whilst the skin appears untouched. In one instance a man had been run over by a drag; death was almost instantaneous; the aorta and vena cava were severed, and yet the elastic abdominal wall was free from any bruise whatever. I have met with several similar cases. Bruises on the surface of the body are often made the basis of a charge in the police courts, and require interpretation before a coroner. I believe that many accused persons are convicted of serious assaults on the ground that the complainant bears bruises which from their extent are considered to be indicative of considerable violence. Medical evidence is called by the prosecution to throw light on this difficult question, and it *is* a difficult one. Very slight force suffices to produce a bruise of the skin in persons who lead a sedentary life; in those who are subject to privation; in those accustomed to abuse of alcohol; in individuals whose vessels are weak or diseased, from whatever cause—for example, hæmophilia, senile decay of arteries, and varicosity of veins. When required to state an opinion on the question of bruises, if you feel confident, speak dogmatically, but if you are doubtful, do not be afraid to express your doubt simply because the vulgar may read your uncertainty as unpardonable ignorance. The *duration* of a bruise varies within wide limits; an ordinary black eye will pass through its colour changes in from ten days to three weeks; but then you must bear in mind that the tissues of the face are extremely vascular, and the circulation active—conditions favourable to the absorption of extravasated blood. In December, 1886, I examined a bruise which had been made eleven days previously; it was in the leg of a woman who had died from erysipelas, and whose saphenous vein and its tributaries were much varicosed. It appeared as though quite recent, except for a faint greenish-yellow tint at its margin; slowness of the colour change and absorption was explained by the hampered state of the circulation, and perhaps also by the vitiated condition of the blood. The legal bearing of the age of a bruise may be very important, and this is my reason for so pointedly directing your notice to it. I have not seen it mentioned in books that a bruise in the cadaver, which at first is bluish-black in colour, may, if quite superficial, become pink—in fact, almost scarlet; but such is the case. At first sight the appearance would seem to indicate a recent extravasation of arterial blood. I believe it is because the blood, being close to the surface, gets oxidised. A case in point came under my notice at an inquest at South Hornsey in September of last year. My note runs thus: "There was a bruise on the left of the umbilicus as large as the palm of the hand; it was bright-red at the centre, and purple at the margin; clearly quite recent."

The police and coroners' courts have not infrequently to inquire into cases of supposed or even alleged *starvation* of *young children;* and I know of no subject more heavily taxing the judgment of medical men for their proper elucidation. A child may die from inanition from one of three primary causes—(1) for want of sufficient food, (2) on account of improper quality of food, and (3) from defective assimilation owing to natural disease. The second of these factors is without doubt the most frequent. Infant mortality from improper feeding is something appalling. In the majority of instances it is owing to ignorance, and not negligence or culpability. A child may be given more than sufficient for sustenance and growth, and yet die from general wasting, the indigestible food setting up diarrhœa and vomiting; intestinal catarrh is established, and in the wake of this the mesenteric glands become enlarged; the lymph paths are obstructed, and the blood-making function seriously disturbed. On the other hand, tabes mesenterica may arise as an idiopathic affection. After careful investigation of many cases of chronic starvation, I have come to the conclusion that there are no *certain* pathological signs by which a medical man can decide whether a child has succumbed to starvation from natural disease, misadventure, or wilful neglect. All he can say is that a given hypothesis is or is not consistent with the facts, the true interpretation being made chiefly from collateral evidence. The older the child, the more probable becomes the theory of criminal intent on the part of those whose duty it is to supply it with food of proper quantity and quality. A number of bruises or other injuries on the body of a child greatly emaciated would be presumptive evidence of culpable neglect as regards the wasting, but obviously even here the greatest caution must be exercised by the medical man. Let him give his opinion clearly, but guardedly. In March, 1886, a woman was committed for trial at the Old Bailey for criminally neglecting her child. The case was investigated before the coroner and at the police court. The grand jury threw out the bill after hearing from me the evidence I had given at the preliminary inquiries.

There is one thing more I must draw your attention to to-day. Persons are not unfrequently found in a delirious or unconscious condition in the streets. Naturally, but unjustifiably, the police are in the habit of attributing the symptoms to drink. Now, either as divisional surgeons or

in your general practice, you will be asked to make a diagnosis in these cases. It may be that you will have no difficulty in discerning between alcoholism and other forms of illness, such as apoplexy, uræmic coma, epilepsy, &c.; but experience teaches that it is only too easy to make a mistake, and therefore I advise you, if you have the slightest doubt in the matter, to keep or order the case to be kept under medical supervision. A few hours will suffice to clear up the uncertainty. This advice applies with double force to the medical officers of public institutions like hospitals and workhouse infirmaries. The public look with a jealous eye upon the management of places they are asked to support, and there is a tendency to presuppose abuses of offices of trust. It would be a grievous mischance if a house surgeon were, after dressing a scalp wound of a person partially insensible from apparent drunkenness, to restore him to the care of the police, and afterwards to find at an inquest that the case was one of apoplexy. Several such mistakes have occurred to my knowledge. I would not be hard on my professional brethren, but I cannot help thinking a certain amount of opprobrium for these errors is not altogether unmerited.

ON THE

NATURE AND TREATMENT OF HYPERTROPHIES AND TUMOURS OF THE NASAL AND PHARYNGEAL CAVITIES.[1]

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DURING the last twenty years the knowledge of diseases of the nasal cavity and the methods of their treatment have been so much improved that they are not behind any other branch of surgery or medicine. The operative, particularly the electro-caustic methods, vie in accuracy with operations on the eye, and the results, as deduced from comparative scientific discussion, have been eminently satisfactory. This has been acknowledged by many members of the profession, notably by those, not a small number, who placed themselves under my care for troubles belonging to the category here to be considered. One of the commonest ailments is hypertrophy of one or other or both of the lower turbinated bodies. This affects most commonly the anterior part, and is not rarely so great as to close the nostril. It then leads to respiratory (nasal) inadequacy, and severe consequences to lungs, nerves, and constitution; it conduces to malformation of the septum from unequal pressure, and from bilateral pressure and ulceration to perforation and loss of the septum.

CASE 1.—A married woman, from Bradford, came under my care on Nov. 9th, 1886. Her nose had gradually become narrow, and entirely obstructed in 1885. On inspection the nose was found to be closed by the two hypertrophied turbinated bodies, which admitted only a probe, no speculum. I effected ablation of the bodies by electro-cautery. When about an inch of the right turbinated body had been removed, it was seen that the septum was perforated and extensively ulcerated all round the perforation. The left concha was now also abortened, and a completely sufficient passage through each nostril was established. The patient was placed under suitable treatment, and when I saw her on Feb. 1st, 1887, she had completely recovered the faculty of respiration through the nose with closed lips, had lost the nasal speech, recovered her sense of smell, and the ulceration was nearly healed.

CASE 2.—A gentleman, residing at Leeds, received a blow on the nose by a door. The nose bled inside and out, and was swollen. He then had inflammation in the ethmoid region with severe pain during five days, after which an abscess discharged into the nose. (This was surmised to be caused by a bad tooth, which was drawn without result.) The discharge and inflammation continuing, polypi formed, and at last the patient came under my care. After preliminary removal of some polypi on Oct. 5th, 1886, both lower and middle right turbinated bodies were found greatly hypertrophied. The only respiratory passage was underneath the lower turbinated body, and this was liable to be blocked by the slightest cold or irritation. I therefore removed on Oct. 15th, 1886, ten days after the operation for polypus, the anterior part of the lower turbinated body. This produced an adequate respiratory canal, and the parts healed well. During the operation a relatively large quantity of pus was discharged from the ethmoid region, and it was necessary to deal with the parts in which the pus originated. On exploration some dead bone was found in the labyrinth and removed. By continued treatment the swelling diminished, and it could be ascertained that the middle turbinated body was enlarged to a bulla, filled with pus. I therefore cut away this bulla entirely by electro-cautery, and cleared the septum from adhesions up to the cribrous plate. Now the abscesses in the ethmoid cells—i.e., the labyrinth—were all laid open and discharged; the anterior and posterior healed quickly; the middle one persisted to discharge in a variable manner. The cavity could be explored with probe, and cleared with sponge. The patient was under treatment about six weeks, and left for his home almost entirely recovered, and well satisfied with his freedom of breathing.

Fracture of the anterior parts of the nose produces sometimes a distortion of the septum, which closes the nostril entirely, and may be mistaken for hypertrophied turbinated bones.

CASE 3.—Master J. K—— came under my observation with the results of this accident. I advised an early operation for this deformity, which, as all experience shows, will no doubt increase.

CASE 4.—A clergyman had suffered for several years from obstructed nose, and been operated upon for polypus by forceps a great many times. He had been asthmatic and was constantly hoarse, and fairly unable to attend to business. I removed a great number of deep-seated polypi from both sides, and obtained a good passage for the right nostril only. The left remained obstructed by a posterior growth, which could not be reached owing to hypertrophy of the lower turbinated body and of the septum opposite. I therefore removed, eight days after the first operation, the greater part of the left lower turbinated body, also the ridge from the septum, both with electro-cautery. When the patient blew through the nostril forward it became completely blocked; when he drew backwards it was quite free. The obstruction was an old, hard, strongly-attached, but movable polypus, which was seized, looped, and removed by electro-cautery. The operation was perfectly successful, and after some general treatment the patient resumed his duties, with nose and vocal organs perfectly restored.

CASE 5.—A gentleman, aged twenty-four, was introduced to me by Mr. Tegart. He had been much treated by powders, lotions, and other means, douche, &c., for a discharge from the right nostril, but without effect. The right lower turbinated bone was greatly hypertrophied and pressed the septum in a deep excavation to the left. In the left nostril the septum was hypertrophied below. On July 9th I removed the right anterior lower turbinated body by electro-cautery, also the excrescence from the septum in the left meatus. The results of the operation (at which Mr. Tegart was present) and of the after-treatment were excellent.

CASE 6.—An officer of Cuirassiers in the German army, came to London to be under my care in the course of the summer of 1886. He had for some years suffered from nasal obstruction, which had so altered the sound of his voice as to greatly interfere with his efficiency as a commander. He had been under the care successively of three so-called specialists in Germany, and had in the aggregate been burned with the electro-cautery, superficially, over the lower turbinated body, more than forty times. He had been further tortured with attempts at dilatation of the nostril by the introduction of hard sticks of laminaria. This most painful treatment had the effect of producing a series of asthmatic attacks, of which some were dangerously severe. On examination I found the right meatus very narrow and contracted, the membranous part of the turbinated body scarred and contracted, but the posterior part hypertrophied, osseous, and touching the septum, which was itself hypertrophied and kinked towards the turbinated body. I effected removal of the hypertrophied part of the turbinated body and ablation of the prominence of the septum. The

[1] Substance of a paper read before the West London Medico-Chirurgical Society, Feb. 4th, 1887.

patient declared that the operation gave him complete and absolute relief; he lost the nasal tone of his voice completely, and was at once, and has ever since remained, free from all symptoms of asthma. Having in the autumn of 1886 passed, during two months, through the most active part of the manœuvres of the German army, he observed some respiratory inadequacy in his left nasal meatus. He therefore came to London in the spring of the present year to have the left meatus operated upon in the same manner as the right one had been. The effect was as satisfactory as that of the previous operation, and the patient is now restored to perfect health and efficiency, and is sense of smell is rather more acute than it was before the operation, and is in every sense complete.

CASE 7.—An Irish gentleman and landowner, aged forty-three, who had been suffering for twenty-three years, and had been operated on twice ineffectually, applied to me for treatment. I removed from each nostril a number of grotesque polypi; and from each a large ampulla, with many polypi attached, being the dependent part of the middle turbinated body. In this case both the respiratory and olfactory meati were reestablished in eight days, and the patient made a perfect recovery.

CASE 8.—A young gentleman, aged twenty-three, from the west of England, had suffered for six years, had endured two unsuccessful attempts at operation, and used much iodine in glycerine as a paint to the inside of the nose. The ethmoid region contained many polypi, and both middle conchæ were much hypertrophied and covered with outgrowths; the septum was bent to the left and thickened in left and right meati on prominent parts. I removed both upper turbinated bodies and all polypi, and restored to the patient a more comfortable breathing passage than he had ever had before. This was the more important for him, as his local trouble was no doubt caused by an inherited tuberculous diathesis, which had already invaded the right lung. The patient resided during the winter in Malta.

CASE 9.—This case was that of a girl, aged four years and a half, whom I saw in consultation with Mr. Cripps Lawrence. Both lower turbinated bodies were enormously enlarged and pressed the septum in the opposite direction. There were also enormously enlarged tonsils. In this case a plan of treatment was adopted to reduce the hypertrophy by medicine. Such cases are frequent, and rarely admit of operation in the nose before the patients are of nearly adult age.

CASE 10.—A clergyman from the country had suffered for many years from obstruction in the nose, and had been operated on many times without much advantage. After clearing away some polypi, I found an enormously enlarged right turbinated body. This I removed entire, as it not only obstructed its own meatus, but the left one also by pressure upon the septum. When the bulla was cut through, pus escaped, and it was now seen that the entire swelling was, in fact, an encapsuled abscess. This case is further remarkable on account of a variety of nervous symptoms, which disappeared entirely after the operation: cerebral confusion with hemianopsia, beginning of spasmodic fits without loss of consciousness, and spasm of the pylorus. The etiology pointed to measles as the first cause of the chronic illness. The patient is now practically well.

These cases are a sufficient support of the thesis—which I could sustain by a very large experience—that in cases of chronic hypertrophy of any of the four (lower) turbinated bodies, causing obstruction or accompanying neuroses, ablation is indicated, and is in most cases the only means of effecting a cure. I have experience of cases which have remained well for ten and fifteen years. Not a few patients, having had relief in one nostril, came after a period to obtain the same relief in the other, as did the patient in Case 6. These cases demonstrate that to call such operations either unnecessary or unjustifiable, and their result a mutilation, is not only contrary to common sense but to actual fact; for these persons were mutilated by their disease, and restored to health by the operation.

The reflex neuroses caused by nasal and naso-pharyngeal disease have engaged my attention and been treated in my publications since 1865. They are spasmodic sneezing, lacrymation, asthma of various forms, hemianopsia, convulsive twitchings, mydriasis, spasm of pylorus, vertigo of such intensity that the patient may fall in a semi-conscious state, disordered sense of smell (a condition which causes to the patient olfactory delusions), and others. In such cases German and American specialists have practised superficial cauterisation in the nasal cavity, frequently with such evil effects as were described at the International Medical Congress in London six years ago. In opposition to these surface cauterisations, the result of which is so well illustrated in Case 6, I maintain that if a diseased or hypertrophied part of the nasal cavity can reasonably be supposed to be the exciting cause of any reflex neurosis, it should be removed by abscission. I say exciting cause, for they are but rarely the absolute cause. For most so-called reflex neuroses, said to be, and apparently being, connected with nose disease, are only partially so or in a certain sense—that is to say, both nose disease and neurosis or nerve complaint have a common dyscratic origin, tuberculous, scrofulous, enthetic, scarlatinous, morbillar, variolar; and without such a constitutional (in the last three cases sequelar) basis the reflexes are never produced. That the local disease acts as an exciting cause is proved by the disappearance or mitigation of the neurosis after the removal of the local disease. This local disease must, of course, be clearly and unmistakably developed. To burn a healthy concha because a person is liable to asthma is more likely to provoke and aggravate, or, as in Case 6, to literally produce, than to heal it. Indeed, this surface burning in the nose, which has been so much abused, particularly in Germany, is already being found out, and some of its admirers in this country now admit that "it was calculated to raise expectations which are likely to remain unfulfilled."

I must again point out the superiority of the electro-caustic over any other method of operating in these cases. A battery of seven large Grove cells with platinum plates, an oxyhydrogen lime-light, a complete special armamentarium with best platinum wire, and a good assistant are indispensable. What becomes of cases in which the condition laid down by large experience are left unfulfilled can be seen by the following records.

CASE 11.—A young woman, aged twenty-three, suffering from multiple polypi, was treated in a country hospital for eighteen months as an out-patient. The polypi were attacked with forceps at first once a week, later on once a fortnight. No passage was ever produced, and the patient went to a London special hospital. In this she remained as an in-patient during four periods of three months each, spending the intervals necessitated by the rules in a convalescent home. Thus this patient had been under treatment for two years and a half, and had the forceps in her nose an unknown number of times—on at least 200 occasions. This person was freed from her polypi by my method in two sittings, and has now returned to service quite recovered.

That the instrument ordinarily termed a "snare" may become a delusion the following case will clearly show:—

CASE 12.—A gentleman had been suffering from polypus in the nose for several years, and had much hemicrania; he had partially lost his sense of smell, but he could recognise oil of aniseed and tincture of camphor, though he could not distinguish other tinctures, or Barbadoes aloes, or extract of conia. He had been operated upon, but almost unsuccessfully, only some pieces of tissue being removed. I found the right meatus filled with growth and hypertrophy. I removed all polypi, also a bulla, or enlarged dependent hollow lamina of the middle turbinated bone. Only after this was I able to diagnose and remove a posterior naso-pharyngeal polypus more than an inch long; after that a racemose polypus from a cellule of the labyrinth and an abnormal cavity below was removed; upon this the cellulæ of the labyrinth discharged much thick pus. The removal of the last two polypi met with an unexpected difficulty. I felt something metallic, which I seized with a hook and a parallel forceps, and found it to be a piece of iron wire two inches in length. This had probably been in the nose eight months, or since the last operation with the snare; at least the patient, a considerate, calm, educated man, had no other means of accounting for its presence. The large posterior polypus was cystic, lost its serum when opened, and collapsed, and when refilled with water had the size of an inch of a man's little finger.

Cocaine hydrochlorate in the form of a watery solution of 25 per cent. strength, used as a spray, has been of great service in preventing or diminishing local pain during these operations. General anæsthesia frequently compromises the success of nasal and pharyngeal operations, and should be avoided.

CASE 13.—A patient had been operated upon for polypus by the aid of the forceps frequently, and had been under

anæsthesia by chloroform for this purpose, as he stated, at least thirty times. Yet he had never been liberated, and his nostrils were filled with polypi. From these he was freed by electro-cautery, preceded by cocaine, in two sittings. Only very short operations in the anterior part of the nasal cavity can be safely or successfully undertaken while the patient is under the influence of general anæsthetics.

NOTES ON STERILITY.

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EVERY occurrence in nature is the result of some pre-existing influence. The former we have agreed to call the effect, whilst the latter is called the cause. Nothing is accomplished by a sudden act of transition; Nature never executes her workings by fits and starts, although this may at times appear to happen. Interdependence is ever avowedly maintained. In the animal kingdom especially are these facts revealed, whether the end attained be one likely to prove beneficial to or exert a prejudicial influence on the species. In the whole organic world change is wont to be gradual. Creation and destruction keep pace with each other, and wherever there is life we witness co-etaneously gradual death. The process of generation manifests the same phenomenon. Between that state favourable to the production of a numerous offspring and that culminating in complete sterility there exists no distinct line of demarcation; so gradually, in fact, do the two states glide into each other that we are wholly unable to say where the one ends and the other begins. In the vegetable and animal kingdoms alike we encounter every degree of fertility.

The reproductive function, no matter how fulfilled, is wrapped in obscurity, and full of the greatest complexity, yet from a scientific point of view teems with questions of the deepest interest. Take, for example, the well-known yet mysterious influence of a first coitus on the progeny resulting from several succeeding sexual congresses. A purely-bred Arabian mare was covered by a quagga, the offspring resulting therefrom being a hybrid. Never afterwards did the quagga have an opportunity of covering this mare, yet each succeeding progeny, although begotten by an Arabian black horse, continued for some time thereafter to evince characteristics of the quagga, the hair of the mane especially being like that of the quagga, short and stiff. In this case the first coitus affected in a most marked and wholly inexplicable manner the offspring of the Arabian black horse. So potent may a single fertile coitus prove to be that it may continue to exert its influence for long afterwards, and this in cases beyond all doubt. I merely adduce this evidence in support of the tenet already expressed, that the whole question of reproduction is full of complexity. In order, however, that we may, as far as possible, have a clear conception of the multifarious influences for ever at work tending to induce sterility, we must approach the subject and attempt to elucidate revealed facts with a mind free from all bias, for in this way alone shall we serve the end of science by encouraging truth. Mistakes, be it remembered, more frequently arise from lack of observation than as a result of sheer ignorance.

In man and the majority of animals, perpetuation of the species is maintained by a process of gamogenesis, by a coalition and further segmentation of the germinal elements produced by two sexually distinct individuals. This participation in the act of generation by two parents necessarily hinders us in our investigations regarding those causes which, constantly at work and liable to the greatest variation, act and react directly or indirectly on the reproductive organs. In the case of the male parent all interest actually ceases with the emission of the sperm element; whilst the mother, on the other hand, not only produces the other germinal element, but must retain and nourish the impregnated mass for a more or less definite length of time—until, in fact, the resultant shall have reached that state of developmental perfection enabling it to maintain an independent existence. An inquiry, therefore, into the causes of sterility must not treat merely with the glands concerned in the production of the germinal elements and the relative affinities of these elements for each other, but deal also with those conditions, constitutional it may be, which directly or indirectly interfere with the functions of the whole reproductive tract and the competent fulfilment of its requirements. When we remember that the female plays the all-important part and for a continued length of time in the production of offspring, it is not at all astonishing that we should so frequently find authors disposed to attribute the cause of failure in the sexual congress to become fruitful to some occult influence at work on the part of the mother. This admission does not, however, imply a need for the detection of some structural change in the organs of generation in a female who, because she has legitimately indulged in sexual intercourse for years, has never become pregnant. This, I need hardly add, is too commonly revealed, and simply as a result of defective observation. In the majority of such cases the alleged alteration in structure has no other than a mere fanciful existence in the mind of the observer himself. Let us not, therefore, be carried away too readily by a semblance of brilliant results obtained apparently by a too meddlesome interference, for careful observation teaches us that the good which follows is as a rule the outcome of an enforced sexual rest. In order that any organ of the body shall continue to perform its functions healthily, time must be allowed for the structure to regain its vigour after each period of activity. If sufficient rest be not obtained, the function becomes impaired and the structure itself may eventually undergo change because of a maintained vascular turgescence. An immoderate indulgence in sexual intercourse, or an artificial mode of gratifying the passion, tends to induce a state of sterility, and the possibility of conception is favoured by complete sexual rest followed by a moderate indulgence in the act.

In the human race there are so many factors for ever at work in the social life and habits of the individual which thwart us in our endeavours to elucidate questions bearing on the reproductive functions, that our chief information regarding those causes which tend to induce a sterile state must be obtained from facts afforded us by the whole organic world, whether it be vegetable or animal. Lately I saw a patient who, at the age of thirty-six, had given birth to her first child. Although living a marital life for eight years, she had never before been pregnant. In this case I found on interrogation the delay in conception was the result of the adoption on the part of the husband of a simple but well-known mode of protection, and this because of a mutual desire on the part of the husband and wife to be free from the cares of a family. That certain physical states occurring in the organs of generation hinder conception is apparent to everyone. They are, however, not only manifestly over-rated, but in many cases purely imaginary. Rarely, for example, if ever, do we find the lumen of the cervical canal of the uterus so narrowed in a female, otherwise reproductively healthy, as to be a fertile cause of sterility. In order that this may receive some credence, it may be well to consider the train of events consequent upon impregnation in the bird, as throwing some light upon the location at which in the reproductive tract the sperm and germ cell meet and coalesce. In birds, the egg, after fertilisation becomes coated with a calcareous product—the shell, which serves to protect the contained mass from all extraneous influences to which during the process of incubation it may chance to be exposed. This is the result of no mere acquisition on the part of the female bird, otherwise it must have foreseen the prejudicial influences to which the unprotected mass would have been exposed and have been capable of combating effectually such dangers. The secretion of this calcareous incrustation takes place in the lower and somewhat dilated portion of the oviduct, in a part comparable with that which in the human female becomes uterus. If the oviduct fails to fulfil its function in producing this chalky deposit, the unprotected mass cannot be brought to maturity, and the failure must be viewed as a degree of sterility. Prior to the deposition of the shell, however, the impregnated mass receives also an albuminous covering derived from the upper and tortuous part of the oviduct. In the case of the bird therefore, and all animals with a similar reproductive tract, the germinal elements coalesce somewhere about the free extremity of the Fallopian tube. The sperm cell in the human female travels a tube of very narrow lumen; so long therefore as the lumen of the cervical canal continues equal to that of the oviduct, it will not *per se* offer any very serious obstacle to conception.

In all animals the reproductive organs, it would appear, are highly sensitive, the most trifling changes in the habits

or surroundings serving in some occult manner to disturb their functions. In many cases dependency seems wholly incredible. Animals, for example, tamed and kept in their own country may become sterile, and this apart from any negligence in the way of food or want of attention to the general comfort of the animal on the part of those who keep them, the physical state of the animal at the same time continuing apparently unimpaired. Elephants domesticated in their native home evince this tendency, and have never been known to couple under such circumstances, although the generative organs remain functionally active. The nature of the food, it will often be noticed, exerts a prejudicial influence on the organs of generation. Mares brought up on dry food continue sterile, and only prove fertile some time after they have been turned out to grass. Under the more favourable conditions of life they gradually recover the power to procreate. Mere change in food, therefore, inappreciable though it may seem to be, may nevertheless determine a complete inertia of the reproductive organs. It has been stated that lions in travelling shows prove more prolific than those confined in zoological gardens. Why this should be so is difficult to understand, for the animals in such menageries are not better fed nor better tended than those in our gardens. It is quite possible, however, that the constant variation in surroundings, and the perpetual state of excitement induced by their movement from place to place, may account for the greater sexual vigour displayed.

In some cases domestication increases fertility, and this apparently because of a more easy access to food which is at the same time more highly nutritious and presented in greater abundance. The domestic fowl, for example, lays more eggs than any bird in the wild state. All animals, however, are not equally affected by like influences and conditions. The lion when confined breeds freely and produces a greater number at a birth than any other member of the same tribe. Under domestication the sexual appetite may remain unimpaired, and yet sterility results. The bears in the Zoological Gardens here have been seen to couple very frequently, yet congress seldom proves fruitful, for they very rarely produce young. Male birds often lose their characteristic plumage under confinement. Under such circumstances the constitutional change, manifest though it undoubtedly is, nevertheless is free from any associated enfeeblement of the reproductive power. The sexual passion may continue in abeyance without apparent reason, and without correlative change in the physical well-being. Absence of sexual passion does not, however, imply sterility, for frequently I have seen women who, experiencing no pleasure whatever during coitus, nevertheless conceive, and prove as fertile sometimes as those in whom the passion is readily excited. Multifarious and slight it would seem are the changes in the life of the animal and its surroundings which may affect in some occult and wholly incredible manner the reproductive power. Some women I have noted continue barren so long as they live in a cold and exposed district, and mere change to a warmer part of the country is all that is requisite to prove their capability of becoming mothers.

Every male and female mated is not fertile, yet each separately may be highly endowed with the power of procreation; for this same male and same female mated with another female and another male respectively may prove eminently fertile and produce a numerous offspring. The germ and sperm cell may meet and coalesce. In order, however, that an uninterrupted segmentation may ensue, they must produce by their union not a state of equilibration, but a state of molecular disturbance. If the molecular waves radiating from the two elements are too closely allied to each other, they induce a state of equilibrium, with which all vital reaction ceases and no further evolutional change becomes possible. Darkness may be produced by two rays of light of equal intensity rushing into each other from opposite directions. If the opposing forces be equal, total rest will result; the one force is spent in overcoming the other, and there is no residual force left to exert its influence. The fault causal of sterility may therefore be assignable to neither parent, but to both—the elements produced by both are actually too closely analogous to each other. Placed under the most favourable circumstances, they fail, when they commingle, to act and react upon each other so as to produce that amount of instability needful for further segmentation and the production of an independent being. This form of sterility is the result of sexual incompatibility. In man we find abundant proof of the existence of this anomalous behaviour. Lately I saw a patient who, during fifteen years of marital life with her first husband, never became pregnant, yet coitus was fully accomplished and completed. At the age of forty this female married a second husband, and became a mother within the year. The same fact has been noted frequently in the case of animals, and all that is requisite to prove the reproductive capability is to change the male and female and mate them with another female and another male respectively.

Frequently we see women who apparently exhaust their whole reproductive energy in giving birth to one child, as they never afterwards conceive. The individual may note no change in her general health, the sexual functions may be as thoroughly maintained, and the congress may be as completely effected as before, yet the sterile state prevails. Barrenness, be it remembered, is wholly independent of the general health of the individual, and is frequently remarked as an association of excess of size and great luxuriance. In plants it has been noted that very high nutrition lessens materially, or may even arrest completely, the power of reproduction. Many of our trees which become most luxuriant, and bear nevertheless flowers or fruit seldom, are sometimes made more productive by cutting the roots, and thereby lessening the amount of nutrition. I have frequently remarked that women who tend to lay on fat rapidly are apt to become barren. In the majority of such cases the deposition of adipose tissue in great abundance is the result of some constitutional state of a morbid character, and sterility is surely a concomitant, and dependent upon the same cause as that inducing the obesity.

As I have already stated, the energy expended by the male in perpetuating the species is comparatively slight compared with that amount demanded of the female. Sterility, therefore, we shall find frequently results from a failure on the part of the mother to furnish a favourable nidus for the impregnated mass or to supply that amount of nourishment requisite for those evolutional changes consequent upon impregnation. The young of animals born under confinement often die early; sometimes they are born dead or even badly formed. As a rule sterility is a physiological co-association of the functionally active state of the mammary glands. This depends upon the fact that, at least for a time, these glands withdraw from the body of the mother for the maintenance of the child that amount of nourishment requisite for the activity of the reproductive glands. In the case of the milk cow, we witness an interference with this law of nature, the glands through habitual use being made to secrete milk more or less constantly and quite independently of the reproductive system. Sometimes we find women who continue to menstruate with perfect regularity during lactation, and even become pregnant whilst suckling.

Women who marry early may for a time give birth to children too rapidly, but eventually the reproductive energy begins to wane, and a state of sterility is induced, the general health of the individual, it may be, becoming impaired or evincing no sign of deterioration whatever.

Prostitutes, so long as they persist in cohabiting with a variety of males, prove sterile; yet no special mode of protection is adopted to prevent conception. This, doubtless, depends upon the fact that the various germinal elements tend to counteract each other. We witness a parallelism in the case of plants. If the pollen from one flower be placed on the stigma of another, and within a reasonable time thereafter this same stigma be fertilised with pollen obtained from a stamen belonging to the same flower, the pollen first applied is destroyed by that last applied, and neither is capable of producing the desired effect of fertilisation. Bees and ants teach us that a life of ease and idleness is that most favourable for reproduction, whilst a life of great activity predisposes to barrenness. That race which is physically as well as mentally idle, and which is at the same time well fed, is likely to prove more fertile than another race living under directly opposite conditions. Kaffir women who live chiefly upon flesh and milk are most prolific, and give birth almost as frequently to twins as to single children. Taking all the facts into consideration, there can be no doubt that the higher education of women is detrimental to the race, tending as it inevitably must to engender a state of sterility, or, what is worse, to produce a race with marked evidences of physical and mental enfeeblement.

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CASE OF TETANUS FOLLOWING BURN.

EXHIBITION OF MORPHIA; RECOVERY.

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ON Jan. 1st, 1887, A. H——, while sitting by the kitchen fire sewing, suddenly found her dress on fire, owing to a piece of live coal having popped out of the grate. As is usual under such circumstances, she immediately rushed out of doors, when her ignited dress burst out into a flame, and she became severely burnt on the left leg, arm, and thorax. She was brought into the St. Cross Hospital on Jan. 11th, with sores arising from burn on the left leg, knee, and thigh, and with a very large, partly sloughing, partly granulating wound, at least a foot long and four inches wide, involving the inner surface of the left arm, the axilla, and the thorax. On Jan. 21st she complained of slight stiffness of the jaw, and could not open her mouth properly. I at once prescribed some chloral, bromide of potassium, and cannabis indica; but she steadily got worse every day, slowly and surely, until she showed all the symptoms of a well-marked case of tetanus. As her symptoms became worse,—exhibiting extreme rigidity of the jaws, though they were never absolutely closed, slight opisthotonos, rigid abdominal muscles, and complete rigidity of the arm, forearm and fingers, especially on the left side,—I gave her large doses of cannabis indica, without alleviating her symptoms in the least, and without producing sleep.

While the patient was thus daily going from bad to worse, I saw a paper in THE LANCET of Jan. 22nd, 1887, by Dr. J. F. Murison, on the Value of Morphia in Tetanus, and as she could not have been much worse than she was under the treatment I was then pursuing, I immediately commenced giving her subcutaneous injections of the acetate of morphia, which I pushed as fully as I could short of killing her, and whenever I relaxed the doses, or their frequency, her symptoms became more severe. I append a record of the treatment (see Table) under which her sores healed, the tetanus disappeared, and she convalesced, until she is now (April 12th) hearty and strong. I may add that although the morphia was given so freely, there was scarcely any sleep produced, and she never once had a contracted pupil. Her aspect markedly improved after each dose, and her distress lessened, and every dose was regulated according to

TABLE SHOWING THE COURSE OF MORPHIA TREATMENT.

Date.	Drug.	Quantity per dose.	Quantity per day.	Remarks.
Jan. 21	Pot. bromide Chloral Tinct. cannab. ind.	10 grains 10 grains 7½ minims	40 grains 40 grains 30 minims	—
,, 26	Ext. cannab. ind.	¼ grain	5 grains	—
,, 31	Tinct. cannab. ind.	10 minims	4 drachms	—
Feb. 2	,, ,, ,,	15 minims	6 drachms	—
,, 3	Morph. acet., subcut.	¼ grain	¼ grain	This was given at bedtime for the first time.
,, 4	,, ,, ,,	¼ grain	1¼ grains	On this day, at 9 A.M., I gave her half a grain, which made her very livid, and produced very heavy sleep and profuse cold sweats.
,, 5	,, ,, ,,	¼ grain*	2½ grains	—
,, 6	,, ,, ,,	¼ grain	2½ grains	Jerking of limbs during sleep; at times stertorous breathing.
,, 7	,, ,, ,,	¼ grain	2 grains	Scarcely any sleep; rigidity affecting the right side as well as left.
,, 8	,, ,, ,,	¼ grain	3 grains	It was found that she bore a small dose every 2 hours better than half a grain every 4 hours.
,, 9	,, ,, ,,	¼ grain	3½ grains	Necessary to give one-third of a grain every 2 hours.
,, 10	,, ,, ,,	¼ grain	4 grains	—
,, 11	,, ,, ,,	¼ grain + (5 minims, B.P.)	4½ grains	—
,, 12	,, ,, ,,	¼ grain	5½ grains	—
,, 13	,, ,, ,,	¼ grain + (7 minims, B.P.)	6½ grains	This was the greatest quantity given in a day.
,, 14	,, ,, ,,	¼ grain + (7 minims)	5½ grains	—
,, 15	,, ,, ,,	¼ grain + (7 minims)	4 grains	Occasionally sick from this date to the end.
,, 16	,, ,, ,,	¼ grain	3½ grains	—
,, 17	,, ,, ,,	¼ grain	3 grains	—
,, 18	,, ,, ,,	¼ grain	3 grains	—
,, 19	,, ,, ,,	¼ grain	2½ grains	—
,, 20	,, ,, ,,	¼ grain	2 grains	—
,, 21	,, ,, ,,	¼ grain	2 grains	—
,, 22	,, ,, ,,	¼ grain	2 grains	—
,, 23	,, ,, ,,	¼ grain	3 grains	Symptoms slightly aggravated.
,, 24	,, ,, ,,	¼ grain +	3½ grains	—
,, 25	,, ,, ,,	1 grain	4 grains	—
,, 26	,, ,, ,,	1 grain	3½ grains	—
,, 27	,, ,, ,,	¼ grain	1 grain	—
,, 28	,, ,, ,,	¼ grain	¼ grain	—
Mar. 1	Pil. morphia	¼ grain	¼ grain	The subcutaneous punctures were now so dreaded by her that I continued the morphia in the form of a pill.
,, 2	,, ,,	¼ grain	1¼ grains	—
,, 3	,, ,,	¼ grain	1¼ grains	—
,, 4	,, ,,	¼ grain	1¼ grains	—
,, 5	,, ,,	¼ grain	1¼ grains	—
,, 6	,, ,,	¼ grain	1 grain	—
,, 7	,, ,,	¼ grain	¼ grain	—
,, 8	,, ,,	—	—	—
,, 9	,, ,,	¼ grain	¼ grain	—
,, 10	,, ,,	¼ grain	¼ grain	—

* Increased at every dose until she took over half a grain.

her symptoms. The constipation occasioned was, however, a great annoyance; her abdomen was immobile, and, owing to the condition of the muscles, felt like a board. From what I saw of the distress before the administration of morphia, and the relief afforded during its administration, I trust, if ever I should be the victim of tetanus, that I may be at once put under its influence.

TWELVE MONTHS' RECORD OF GUNSHOT INJURIES.

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A. O——, twenty-four years of age, was admitted into the London Hospital on Oct. 3rd, a few hours after receiving a gunshot wound of the left forearm. A charge containing an ounce of No. 9 shot had exploded at a distance of a few feet, and the greater part had passed through his coat-sleeve and entered the flexor surface of his limb. When it was uncovered it was found to be perfectly riddled. Very few shot had entered above the elbow or below the wrist, but the whole of the space between these two joints was evenly dotted with minute openings, out of which venous blood was slowly oozing. The edges were bluish in colour and inverted; a probe was passed down a few, but in no case could the shot be felt, probably owing to the fact that the openings in the layers of fascia and the muscles no longer corresponded with those in the skin. On an average, there were three or four to every square inch; none had gone through the arm, and there were no powder grains in the skin, even of the wrist, which had not been protected by his clothes. The forearm was very much swollen and quite tense, the skin fairly warm to the touch, and though the radial artery could not be felt at the wrist, there was a certain amount of colour under the finger-nails, and it returned readily after being driven away by pressure. The pain was very severe, but it did not correspond to the distribution of any nerves; it seemed to be general, and due rather to the extreme condition of tension than to anything else. Sensation was impaired over the whole hand, though it did not appear to be actually lost anywhere except over the ball of the thumb. It was explained to him that in all probability his arm would have to be amputated, but, as he was exceedingly unwilling and was ready to run any risk, it was determined to make an attempt to save it. The whole of the injured part, which had been well sponged over and wrapped in antiseptic gauze as soon as he came into hospital, was immersed in a carbolic bath, temperature 100° F., one part in forty for the first hour and one in eighty afterwards, and it was kept soaking in this, night and day, for twenty-four hours. At the end of that time, when the part was examined, it was found to be more tense than ever, so that some incisions were made through the skin for the purpose of allowing the accumulated serum to escape; it was still warm, but after it had been out of the bath a few minutes the temperature fell very considerably, the diminution in the sensibility of the skin was more conspicuous, and the pain, in spite of repeated injections of morphia, had become almost intolerable. In twelve hours more it was quite evident that decomposition had set in, and that the part was rapidly becoming gangrenous. Sensation was completely lost; one or two incisions that were made into the subcutaneous tissue about the middle of the forearm showed that in places at least it was already sloughing; emphysematous crackling could be felt in front as high as the elbow, and on the inner side nearly up to the axilla. In spite of the undoubted putrefaction of the limb, there was no evidence as yet of any considerable degree of septic intoxication; the temperature, which the previous evening had been 100° F., had only risen a fifth of a degree; the pulse, it is true, was very rapid (120), and the respirations were hurried and shallow. But this might reasonably be laid to the credit of the extreme pain which the patient had been enduring for a day and a half. The forearm was amputated immediately below the elbow. Skin flaps were made, the longer on the dorsal surface, as that was the least injured; and the muscles and soft parts divided as high as possible. All the tissues were very dark in colour, sodden, and œdematous; but there was no actual slough along the line of the incision. There is no need to give any detailed account of the further progress of the case; the temperature rose to 102° the next morning, and then fell to 100°, about which it fluctuated for a few days before becoming normal. A small part of the dorsal flap sloughed, and about twenty or five-and-twenty shot suppurated out through the wound, but practically convalescence was uninterrupted. The limb itself was in such a condition that it was impossible to ascertain if any of the main arteries had been severed. There can be no doubt the gangrene was due to the bruising caused by the excessive number of small contused and punctured wounds, and to the extreme degree of tension set up. The circulation did not stop immediately, though pulsation could not be felt in the radial at the wrist; it was finally cut off by the effusion and swelling that followed the injury.

W. N——, aged thirty-five, was admitted on June 19th with a bullet wound of the right side of the forehead, about an inch and a half behind and a little above the external angle of the orbit. He was perfectly conscious; there was no paralysis or loss of sensation; the eyes moved normally; the pupils were equal, and, in fact, his nervous system did not seem in the least disordered. The pulse was 72, feeble and very dicrotic; respirations were 20 to the minute, and the temperature 100°F. The wound was small, only one-third of an inch in diameter, the edges inverted, and a thin stream of venous blood continued to ooze from it. A probe could be passed quite three inches into the opening through a hole in the bone, in a direction inclined slightly forwards. No brain substance was oozing from the wound, but there can be no doubt, from the direction it took, that the bullet had gone through, or at least into the substance of, the frontal lobes. No evidence of its presence could be found, so that no attempt at extraction could be made. The wound was covered over with a piece of lint dipped in lead lotion, and the patient placed in bed in a darkened corner of the ward. A few hours later the temperature had risen to 101·5°, the pulse was 42, and the right cheek had begun to swell. He had vomited blood on several occasions, and was very restless, complaining of pain extending over the whole of that side of the head and face, so that it was impossible for him to sleep. The next morning the eyelids of that side began to show staining, and blood was observed making its way gradually forward beneath the conjunctiva. The swelling of the face was somewhat less, but there was a complaint of pain on the opposite side of the head, about the highest point of the temporal ridge. Firm pressure here evidently made him flinch, but there was no sense of yielding or œdema. The further progress of the case does not need any detailed description. The swelling subsided gradually; the staining and ecchymosis slowly cleared up; the tenderness disappeared, and the wound closed in without more than a trace of suppuration. There was no sign of paralysis from first to last, and no impairment of vision. The temperature never rose higher than on the second day; the pulse rose to 70 in the minute, at which it remained fairly stationary, and the patient seemed to recover completely without the slightest loss of memory, even for the events that immediately preceded the injury. He was discharged on July 28th, apparently as well as ever he was. The bullet was fired from an ordinary seven-chambered Colt's revolver by the patient himself while standing in front of a looking-glass. Four cartridges were discharged, but nothing was known about the course taken by the other bullets. This was the only wound that he received. There can be no doubt that there was a fracture of the orbital plate of the frontal bone; and probably from the blood that was vomited the injury involved the roof of the nasal fossæ as well. The probe passed in apparently quite straight, but there is no means of telling whether the bullet was lodged in the anterior lobe of the brain on the opposite side, or whether it might not have been deflected from its course by the bones through which it passed and turned downwards into some part of the ethmoidal cells. It is very difficult to understand what can have been the cause of the exceedingly localised tenderness on the opposite side of the head. It persisted for some days, and was so intense and accurately defined as to give rise to the suspicion that the bullet had in some way passed across the brain and fractured the skull from the inner side; but as there was no œdema or sense of yielding, and as it was not quite in the line of the wound, it did not seem advisable to interfere in any way, and the case was left entirely to itself.

J. T——, aged thirty-two years, a strong healthy man, who had been a teetotaler for some years, was admitted on Jan. 12th with a gunshot wound of the foot. While out shooting, carrying his gun under his arm, one barrel went off, and the whole charge passed like a ball through an indiarubber shooting-boot he was wearing, and through his foot as well. The aperture of entry, which was about the size of a florin, was immediately over the bases of the first and second metatarsal bones; that of exit was irregular in shape and much larger, the greater part of the sole of the foot that does not touch the ground in standing being carried completely away. The wound itself was full of *débris* of bone mixed with shot, the wad from the cartridge, and portions of his boot. It was thought at first that the injury was beyond repair, and that the wisest course would be to amputate the foot at once; but as the patient was young and healthy, and as the wound was so situated that in all probability the external plantar artery had escaped, so far at least as the first part of its course was concerned, it was determined to make an attempt to save it. The heel, the ball of the great toe, and the skin on the outer side of the foot were intact, and it was thought that if the wound could be induced to heal up the contraction would restore in a certain measure the arch of the foot, and would keep the cicatrix from pressing upon the ground in standing and walking. No attempt was made to clean the wound, or to extract from it any of the shot which it contained. It was simply immersed in a carbolic bath at a temperature of 100° F., 1 part in 40 for the first two hours, and then 1 in 100, and left there. The next morning the patient had had a restless night, in spite of a hypodermic injection of morphia; the bowels had been opened freely; the pulse was only 100, and the temperature 99°. The wound was simply a mass of slough, with the ends of the tendons hanging in it, sodden and greyish-yellow, but perfectly sweet, and with only a thin red line round. This continued through the next day and the next, the wound remaining entirely unchanged, the patient's health continuing very good and there being an entire absence of fever. But then the epidermis over the rest of the foot and the part of the leg that was immersed began to show signs of giving way. It was reddened and beginning to peel off, leaving exposed a younger, softer layer extremely sensitive to the touch. Further, the urine was olive-green in colour from the absorption of carbolic acid, and a certain small amount of albumen had begun to make its appearance. The bath was accordingly changed to corrosive sublimate, 1 part in 20,000; but it was very soon found that this would not answer. The pain was so great that it was impossible to stand it for more than an hour at a time. Boracic acid was then tried, but though the carboluria disappeared and the skin ceased to be so exceedingly sensitive, this too proved unsatisfactory; the wound became offensive. Finally, the continous bath, after it had been kept up for nine days without intermission, was stopped; the foot was wrapped in lead and spirit lotion, covered over with guttapercha tissue, and immersed for an hour each day in a corrosive sublimate bath. In this way the tendency to putrefaction was completely kept in check. The leg continued swollen and the skin very tender, but it was not more than the patient could bear. There was not the slightest fever; the temperature rarely rose to 99°F., and never but once passed it. It was extraordinary the length of time the sloughs took to separate. At first, the wound was so large that three fingers could easily have been placed in it; then, owing to the swelling of the tissues round it, contracted, so that only a probe could be passed through; but it was not until the beginning of April that the great toe began to feel firm and to sink definitely below the level of the others. The dorsal wound, as might have been expected, healed much the quickest; that on the plantar surface seemed after a time unable to contract any further, and when the patient was discharged from the hospital at the end of April was still open about the size of a shilling. At that time he could rest his weight on the foot without pain, but the amount of movement in it was very limited, and as soon as he began to walk about it swelled up and became tender. Two or three times after that minute spicules of bone worked their way out through the dorsal surface, but the wound continued to close in, and the foot and leg to become stronger, until by the end of the summer he was able to walk four or five miles without fatigue, and to go about on ladders and scaffolding as he had been wont. The wound at the end of the year, when I saw him last, was perfectly sound; the great toe was an inch shorter than its fellow; there was a high arch to the foot, the whole of the under surface of which was occupied by the cicatrix, so that none of this rested on the ground; movement at the ankle was very free, probably in a measure to compensate for the loss of the tarsal joints, and he declared it was as sound and as strong as it had been before the accident.

W. R——, aged nineteen years, was admitted on March 1st suffering from a bullet wound on the outer side of the right arm, just above the middle. A chamber of a revolver, which some friend was handling, had gone off accidentally, and the bullet had gone through his coat and shirt. A probe passed into the opening could be felt in the inner side, close to the brachial artery, immediately under the skin; but though he was perfectly clear about the exact position of his arm at the moment (his elbow was resting on a high desk), and though the accident had only happened an hour or two before, no trace of the bullet could be felt. It had gone apparently beneath the biceps in front of the bone, and most probably had been gradually pushed further and further into the cellular tissue of the arm by the repeated changes in shape and consistence of the muscles as they contracted. The artery itself seemed uninjured, though the bullet must have gone exceedingly close to it. The nerves had escaped in all probability, as there was no pain or abnormal sensation felt in any of his fingers, and accordingly no serious attempt was made to remove it. A counter opening was made through the skin on the inner side in case any portion of his clothes had been carried in, and the arm was placed in a sling. There was a slight amount of suppuration, but the wound was practically healed at the end of a week.

F. S——, twenty-three years of age, was admitted on March 18th with a bullet wound of the gluteal region. Some time before he had been shot with a revolver by accident in this region, and the bullet had never been extracted. Now he came desirous of having something done, as he asserted that after sitting down for some time he could distinctly feel it. There was the scar of the wound about two inches below and to the inner side of the trochanter; and it could be made out that the bullet had gone upwards and forwards with the substance of the glutæi muscles; but as nothing whatever could be felt on deep pressure, either over the bullet track or over the spot of which he complained, and as the latter was some distance from the aperture of entry, nothing could be done. In all probability the bullet had travelled some considerable distance before becoming encysted.

A. C—— and L. C——, mother and daughter, were admitted on June 30th, with gunshot wounds of the head and face. The former was much the more serious case; a revolver had been discharged close to her face, and the bullet had gone through the upper lip a little to the left of the middle line, through the alveolar border of the upper jaw into the substance of the tongue, beyond which it was impossible to trace it, though a certain amount of indistinct swelling could be made out between the angle of the jaw and the hyoid bone on the right side of the neck. There was at first a considerable degree of shock and much apprehension; but this passed off in the course of the afternoon, and beyond the natural difficulty in speaking and swallowing there did not seem any reason for grave alarm. None of the large vessels about the root of the tongue had been injured; there was no bleeding at the time of admission, though it was said to have been rather free at first; respiration was not embarrassed; there was no stridor; the voice itself was quite clear, though the effort was very painful; and there did not seem any reason for immediate interference. The next morning, however, the swelling by the side of the neck had greatly increased in size; all the parts about the floor of the mouth, and even the soft palate, were becoming œdematous; there was severe pain at the back of the neck and considerable difficulty in breathing; the patient was getting anxious and restless, and the temperature had risen to 101° F. It was accordingly determined to examine the part under an anæsthetic, and, if possible, extract the bullet and drain the wound thoroughly. Chloroform was administered on lint, but at the fourth or fifth inhalation the patient was suddenly seized with violent convulsions; the back became arched into the position of opisthotonos; the jaws were clenched, and the wrists and elbows curled inwards as much as possible. Respiration at once became embarrassed; the jaws were forced apart, and the tongue pulled forward, without avail; the trachea was opened immediately through the first and second rings, and as the convulsion was relaxing artificial respiration was commenced;

the pulse could still be felt beating, but except one or two convulsive gasps there was no sign of returning animation. Post mortem it was found that the bullet had entered the dorsum of the tongue, about its middle, passed through the tissues at its base, and was resting on the transverse process of the fourth cervical vertebra, between the carotid artery and pneumogastric nerve, neither of which, however, appeared to be injured. The tissues along its track were swollen and œdematous, but the œdema did not appear to have involved the larynx to any considerable degree. There can be no doubt, in spite of the unusual character of the symptoms, that the immediate cause of death was the anæsthetic, but it is not unlikely that the previous condition of the patient and the state of the tissues about the upper part of the respiratory passages were material factors.

L. C——, aged twenty-two, daughter of the previous patient, had been shot at the same time. She was holding her hand up to her face at the moment the revolver was discharged, and one of the fingers was almost blown away. The bullet then entered the right side of the face immediately above the zygoma, and passed transversely across almost to the opposite cheek. The aperture of entry was blackened all round by the powder. A probe inserted into it passed for nearly six inches slightly downwards across the nasal fossæ, apparently into the substance of the opposite superior maxilla. It could not be felt underneath the skin, though there was a good deal of tenderness, and an indefinite degree of swelling over its extremity. The exact situation of the bullet could not be made out. Previously to admission she had lost a good deal of blood, both by the mouth and nostrils, but evidently no large vessel was injured. Her speech was rather thick and nasal; there was some difficulty in swallowing, and naturally mastication was exceedingly painful. The temperature on the day after the accident rose to 100° F., but fell to normal the same night, and never rose again. The bullet was never found, and the wound closed completely in the course of a fortnight without more than a trace of suppuration.

These cases were admitted under my care at the London Hospital from Jan. 1st, 1886, to Jan. 1st, 1887. One man died before he could be brought. Some of them are of interest from the peculiar nature of the injuries received; one in particular, as the bullet is in all probability still lodged in his brain; and another from the fact that though the whole charge of shot had gone completely through his foot, leaving an opening into which three fingers could have been passed, he recovered without the least fever, without any inflammation, and so perfectly that at the end of six months he could walk four or five miles without fatigue or inconvenience. A point worth noticing is the extraordinary frequency with which accidents of this kind occur, mainly owing to the pernicious custom of carrying revolvers. Few people probably are aware of the extent to which this prevails, especially among boys and those a few years older. The only consolation is that in a large proportion of the cases, owing to the character of the weapons, they are nearly as likely to shoot themselves as anybody else, and that apparently, if no vital part is struck, the bullets themselves, when lodged in the body, give rise to little or no trouble. The immediate shock, owing probably to the smallness of the size of the projectile and its conical shape, is very slight, and the wound heals rapidly.

ON A CASE OF CHRONIC RHEUMATISM.

BY CHARLES DAY, M.R.C.S., &c.

"CURE of a case of rheumatism of thirty-six years' standing" sounds so like a sensational heading of an account of the marvellous effects of some patent medicine that one almost hesitates to enter on a subject having such a basis. Nevertheless it is a fact, and as facts are—as we too generally find chronic rheumatism to be—"stubborn things," and as the annals of medicine record many remarkable exceptions to the general rule, I will detail a brief history of the case, adding a few remarks suggested by the result.

In July, 1883, I was requested to visit Miss R——. I found the patient, a maiden lady, aged sixty, suffering from much anxiety in consequence of having discovered that the right nipple was deeply retracted, so as to be quite level with the surface. I also heard that she had been a great sufferer from rheumatism for many years; and as it is to this disease rather than to the cancer that my communication relates, I will merely observe how insidiously and painlessly this complaint—cancer—sometimes makes its way, and also the somewhat remarkable circumstance that women, whose attention would naturally be directed to the breasts during the daily ablutions, and quickly notice any change in the appearance of the nipples, do not always observe a gradual process of retrocession. I have met with several cases, as in the present instance, and no doubt the same circumstance has fallen under the notice of other medical men, that there has been complete ignorance of any abnormal change in the condition of parts until their attention has been called to the sudden entire retraction of the nipple, generally described as having occurred in the night. On making further general inquiries, I found, as I have stated, that, as well as the cancer, I had before me a case of very long-standing rheumatism, which all treatment had failed to relieve. The lady is 5 ft. 4 in. in height; body well nourished; fair complexion; cheerful disposition. The family history revealed no gout or rheumatism, but a sister died of cancer.

The following account was given of the commencement of her illness and condition up to the time of coming under treatment. During very hot summer weather, thirty-three years previously to the time of my attendance, she sat between the open door and window while in a state of perspiration, "the draught being so delightful." A very natural result followed—viz., a very severe attack of acute rheumatism, from which she was three months in recovering. I could not hear that there was any cardiac complication at the time, but the heart sounds are healthy now. The pain and swelling of the joints were considerable, which condition of parts never entirely subsided. Another less violent but still sharp attack was experienced eight years afterwards, and again four and two years before I saw her. The last was more confined to the lumbar region, and was very severe. During the whole of the long period named she cannot remember having been entirely free from pain. Going up and down stairs (especially the former) was attended with pain and difficulty, and could not be accomplished without the help of the baluster, the progress being very slow, step by step. Out-door exercise, except for a short distance leaning on an attendant, was impracticable. Any attempt to walk alone immediately produced giddiness and a staggering gait, and if not supported she would fall to the ground. A sharp pain was frequently experienced at the top of the sternum, which increased on any attempt to swallow, causing a choking sensation; consequently all fluids were taken by sips. The night's sleep was very interrupted.

As the treatment continued over some considerable time, it would be inconvenient here to give a minute account of it. For the present purpose it will suffice to give a general statement of the medicines administered and the gradual progress up to recovery. Taking, then, a general view of the case, the invasion and long-continued possession of the system by the rheumatic virus and the mammary glandular disturbance, one was led naturally to select medicines calculated to have a specific action on the parts, and a depurative action on the blood through the excretory functions. I therefore commenced with iodide and bromide of potassium, five-grain doses of each in compound decoction of sarsaparilla and decoction of buchu and broom. And having proved, at least to my satisfaction, that the influence attributed in past time to conium over chronic rheumatism and glandular enlargement is real, I administered three grains of the extract every night and morning. This treatment was continued for twelve months, with only occasional intermission of the potassium and conium, substituting infusion of simarouba with aromatic spirits of ammonia. At the end of this time the swelling of the joints had subsided, and the patient was relieved of the pain which hitherto had made its presence felt so continually. She could also move about the house without the assistance previously necessary, but still not freely; neither could she take out-door exercise without assistance; the giddiness also continuing. At this time the iodide of potassium was discontinued; the bromide and conium were omitted every other week for three months, every third week for the next three months, finishing the year with simarouba. At the end of this time she had regained fair powers of locomotion, could move about the house freely, going up and down stairs without help, and could take a short walk without support, but did

not feel confident without a companion. Six months after this there was no vestige of rheumatism, joints natural, pain quite gone. Even that in the chest, which had interfered with her swallowing fluids except by small sips, was no longer experienced, the power of swallowing being natural. Sleep was continuous from soon after retiring to rest until the time for rising, a contrast to the pain and restlessness of former times. The general health is now excellent. To use her own expression, she "scarcely knows herself," for whereas during the whole thirty odd years she does not remember having been free from pain, she is now entirely free from it; and whereas she had been unable to move about the house or go out without assistance, she can now go out by herself, and has walked four miles without a rest. Indeed, it has afforded some amusement to hear her expressions of delight, and the description of the tests which she has applied to satisfy herself that the improvement was real. On a recent occasion she was in the park, when, looking round to see that no curious eyes were watching her, she said to a relative who was with her—"Don't laugh, I am going to run," which she did with great satisfaction to herself.

With regard to the treatment and its success. Although there is no claim of novelty to be applied to the remedies used, that they were effectual in promoting the desired end is manifested by the result. There is a wide gulf between disbelief of, and exaggerated confidence in, medicine—the one objecting to any *propter hoc* reasoning, the other accepting without question the empirical dogma. The long period during which the iodide, bromide, and conium were continued without producing any constitutional disturbance is not a little remarkable. Only twice had the iodide to be discontinued in consequence of the characteristic catarrhal symptoms. In like manner the conium was discontinued for a short time on three occasions, not from any evidence of toxic action, but from a feeling that it might be prudent to do so. The system had become so tolerant of the medicines, or, as one might say, the disease had so "consumed" them, that they might have been continued for a much longer period. It may be inquired, How do these medicines act?—which almost necessitates another question, What is rheumatism?—too wide a matter to discuss here. Suffice it that we observe the same divergence of opinion as elsewhere. We have certain forms of words to express the difference between health and what we call disease. We analyse the blood and secretions to discover the *fons et origo mali* without producing uniformity of opinion. Hence in the treatment we find remedies of opposite characters employed for the cure of the same malady. Thus in the acute stage of rheumatism one considers the alkaline treatment to neutralise the excess of acidity in the system the only natural one, while another administers large doses of lemon juice. One will attack cholera with purgatives, another with astringents and opiates; one with cold water, another with hot water; and so on. From time to time the field of argument changes. That which was pretty firmly established in one generation is rejected by the following. Whatever may be the nature of the physiological changes effected in this complaint, rheumatism, it appears from the symptoms in its acute development to be rightly classed both under febris and neurosis. Hence in that stage remedies are sought for amongst those which reduce temperature and allay pain, and the chemical theory of neutralising the acid secretions is rational in theory and useful in practice. But when we come to a chronic condition less susceptible of a satisfactory explanation we are reduced to a more empirical system of treatment, the *rationale* of which we are somewhat at a loss to understand. The iodides and bromides are present to the mind, and have been used with temporary benefit or with no effect. Conium has been employed with marked benefit in chronic rheumatism and in syphilitic periosteal inflammation. With these were joined buchu, broom, and sarsaparilla, with the object of assisting to eliminate from the system the *materies morbi*. Now, I attribute the success of the treatment to its regular and long-continued administration. It is very seldom one meets with a patient so willing and anxious to assist by strict adherence to directions, especially for so long a time, and the unusual tolerance of the medicines gave full opportunity for the trial. One other thought suggests itself to me. In a contribution on fibroid disease, which was published in THE LANCET, I was led to theorise on the relative connexion between those diseases of heredity, cancer and gout, referring to cases where one had been replaced by the other, relating the case of a family which, having for generations suffered from gout, suddenly developed cancer, the former disease disappearing and the latter carrying off the members of two generations. If there be any ground for the idea of substitution, it may be just possible in this instance that, as cancer was developing, the rheumatism so closely allied to the gouty diathesis may have weakened its hold and rendered it more ready to yield to the remedies employed. Be that as it may, I think, taking into consideration the many years during which this poor woman was bound by her infirmity, and despite the medical care she had received at different times, the favourable result now obtained must, without any forced argument, be accepted as the direct result of the action of the remedies used; and, as they are not novel, there is evidence to show that their long and continuous exhibition is necessary to produce such a result.

St. Mark's-square, E.

TWO CASES OF

DISEASE OF SACRO-ILIAC SYNCHONDROSIS.

BY F. J. GANT, F.R.C.S. ENG.

CASE 1.—C. M——, aged thirty-six, married, was admitted into the Royal Free Hospital on March 2nd, 1887. The patient had always been healthy until Christmas, 1886, when he first noticed a swelling over the sacrum to the left of the middle line. He had fallen from a ladder eighteen months previously. When admitted this swelling was found to be soft and fluctuating—evidently an abscess, painful only on deep pressure. On standing, the man complained of a sensation as though the left half of the pelvis were giving way, and of pain running down towards the hip. No wriggle in walking. Viewed posteriorly, the left limb appeared elongated, but there was no real alteration in length when measured between the anterior superior spine and inner malleolus, the apparent lengthening being really due to the patient habitually standing on the right leg, and thus producing drooping of the opposite limb. There was some abduction and eversion of the limb, with slight forward projection of the foot. The anterior superior iliac spine was more prominent than on the other side, and on a somewhat lower level. The above-mentioned swelling had enlarged, so as to occupy the adjoining portion of the gluteal region. On April 19th I made an incision over the swelling, and pus escaped. At one point a small aperture could be felt, through which a probe passed into the sacro-iliac articulation. This was enlarged, and the articulation gouged out until the surface appeared healthy. The abscess cavity was scraped with a Volkmann's spoon, and washed out with 1 in 40 carbolic solution. A drainage tube having been introduced, the wound was dressed with dry carbolic gauze and salicylic wool, and closed with mackintosh cloth and retained with elastic bandage. The wound rapidly healed, and the temperature reached normal in two days. The dressings having been reapplied as occasion required, the patient was discharged on May 22nd. He could then walk and stand without inconvenience.

CASE 2.—E. G——, a young woman, aged nineteen, was admitted on June 29th, 1887. She was by occupation a box-maker, which for the last three years had entailed much standing in her work. Nine months ago she first noticed a small lump nearly over the left sacro-iliac articulation. This slowly increased in size from a hazel-nut to about the size of an orange. She had received no injury. In standing or walking, she experienced a sensation, as she herself expressed, of "falling asunder behind." Pressure on the iliac bone outwards by the finger caused severe pain in the articulation. The movements of the left hip joint were free and unattended by pain. The appearance and position of the limb were precisely similar to those of the former case, there being apparent lengthening with abduction and eversion. The anterior superior iliac spine projected conspicuously forwards. On July 12th the abscess was opened, from two to three ounces of pus evacuated, and the synchondrosis scraped, as in the last case, together with the pyogenic membrane. The cavity was syringed out with carbolic solution (1 in 40), drainage tubes introduced, and antiseptic dressings applied. The after course of the case was uninterrupted by any unfavourable symptom, and now (July 19th) the wound is quite healthy and healing up.

Remarks.—The above cases seem worthy of being recorded, if only on account of the rarity of the disease of which they are

examples. This is only the fourth case that has come under my notice during thirty-four years at the hospital. The diagnosis would lie between this disease and that of the hip joint. In the early stage at which both of these cases presented themselves, the sacro-iliac disease bore a striking resemblance to the first stage of "morbus coxæ," with regard to the apparent lengthening and attitude of the limb; but the marked prominence of the iliac spine in front is distinctive. Equally characteristic is the sensation of yielding in the articulation in the act of standing or walking, with sometimes a wriggling movement in progression. These characters taken together, with the absence of any signs or symptoms referable to the hip joint, are diagnostic of sacro-iliac disease.

A SERIES OF CASES OF INJURIES FROM EXPLOSIVES.

By W. LOUDON STRAIN, M.B.

SURGEON TO ST. JOHN DEL REY MINING COMPANY; LATE HOUSE SURGEON, WESTERN INFIRMARY, GLASGOW.

DURING the last three years I have had to deal with a number of surgical injuries produced by various explosives, and I think them of sufficient interest to warrant their publication, with the short remarks I have to make on each case.

CASE 1.—This case I had to deal with while resident in the Western Infirmary. A strong working man on his way to work picked up a piece of copper tubing and put it in his pocket, intending to make some use of it. On reaching home he proceeded with the help of a darning needle to clean it out, when it exploded in his hand. On admission, it was found that the thumb, fore and middle fingers had been so shattered that amputations had to be performed through the proximal phalanx of the thumb, the middle joint of the forefinger, and at the knuckle of the middle finger. The man did well. This case is interesting when compared with Case 3. The explosive—fulminate of mercury—was the same in both cases, and the mode of production and damage sustained were almost identical.

CASE 2.—J——, a very old negro, certainly over eighty years of age, was brought to Morro Velho Hospital on Feb. 16th, 1886, terribly injured by the exploding of a quantity of dynamite and percussion caps, with which he was working. The old man's duties were to attach the cap and fuse to the dynamite cartridge. How the accident occurred will never be known. It is estimated that about 5 lb. of dynamite and about one hundred caps, with fulminate of mercury, exploded at the old man's feet. On admission he was not unconscious, and complained loudly of pain on any attempt to move him. His left foot, with the lower half of the leg bones, was shattered; the right leg bones were fractured in several places, and almost completely stripped of the soft parts. Beyond scorching of the skin and singeing of his wool, no damage was done to the head, trunk, or upper extremities, all the force of the explosion being exerted on his legs. The poor old fellow survived the removal of his shattered limbs about twelve hours.

This case illustrates how curiously dynamite acts. An inspection of the place where he was working showed a hole about a foot deep and two feet in diameter blown in the ground. The house came down about him, and a gable close by was blown in. The wonder is how he was not blown to atoms. The dynamite with which he was working was on the ground, and he sat on a little bench.

CASE 3.—On Saturday, April 4th, 1886, a Chinaman stole a cap, intending to use the tubing as a ferrule for a stick. Finding it obstructed, he proceeded to clear it out, when it exploded, shattering the thumb, fore and middle fingers of the left hand. Being almost identical with the injuries in Case 1, the amputations were also identical. At the end of a week the stumps were dressed, and looked well. Four days afterwards pain was complained of, and on removing the dressings pus was found lodging in small quantity in the sheath of the extensor tendon of the middle finger. This was freely incised, and relief followed, but three days afterwards tetanus appeared, and in exactly three weeks from the date of the injury he died asphyxiated.

What caused the tetanus? Had the faulty drainage—the pus lodging as it did in a tendon sheath—anything to do with it? He suffered from chronic tubular nephritis, with aortic regurgitation and dropsy. Had this anything to do with it? The only other Chinaman in the hospital at the time was a man suffering from anæsthetic leprosy, with ulcers. The two were continually together. I merely mention these three things, as I think it not improbable that one or other had to do with the origin of the tetanus. Calabar bean was given in large doses, and continuously, but without benefit. He smoked opium largely.

CASE 4.—In this case I will briefly narrate the injuries sustained by several persons in an explosion which occurred in a mine on April 9th, 1886. After blasting out masses of rock with dynamite the larger pieces are broken up with sledges to a convenient size for conveyance to the surface. On the above date a man was thus engaged, but on striking a mass of rock an explosion occurred, shattering the mass and sending pieces in all directions. Practical miners are at a loss to account for these explosions, which occur at rare intervals; but it is thought that it is due to nitro-glycerine which has exuded from the dynamite during the blasting and remained at the bottom of the "hole" unexploded, and that the sledge coming down on this causes the explosion.[1] This is a matter of importance for the consideration of dynamite makers. By this explosion five persons sustained serious injuries. J——, an Italian, sustained a compound comminuted fracture of the tibia just above the ankle, total destruction of the right eye, and numerous cuts and scratches. Ten small fragments of bone were removed from the seat of fracture, and three days afterwards extirpation of the eye had to be performed on account of pain. He made an excellent recovery. C——, a Brazilian, was using the sledge. He escaped with a simple fracture of the tibia below the knee. T——, a black man, had a severe laceration of his right arm, and across the left side of his throat there was a deep, clean cut, which bared the side of the larynx and also the carotid, which most wonderfully escaped injury. He suffered from profound shock, from which he did not recover for twelve hours. After this, recovery was uninterrupted. A——, a black man, had a deep punctured wound in front of his left shoulder. A small artery was wounded, and bled so profusely that I had to cut down and tie it. He suffered a good deal from loss of blood. L——, a black man, was cut across the right eyeball, which was completely destroyed. One curious incident occurred. A man was actually standing on the stone when it exploded. He was thrown for a considerable distance up an inclined surface, but escaped uninjured. All these men were employed close to the place of explosion, besides many others who escaped uninjured.

CASE 5.—Senhor J. F. P——, a Brazilian, aged about sixty, was terribly injured by the exploding of a dynamite cartridge in his hand. It occurred in the following manner. On a certain day after Easter the terrible fate of Judas the Betrayer is typified or commemorated by the exploding of bombs, firing off rockets, &c. On this particular occasion dynamite cartridges were used. A short piece of fuse was attached to the cartridge, which was held in the hand until the fuse was seen to have caught fire; then the intention was to throw it away as far as possible for it to explode. The sun shining brightly at the time obscured the sparks flying from the fuse, and thinking it had not caught fire the man held it in his hand until the explosion occurred. I may incidentally remark that the use of dynamite and other dangerous explosives at their religious and other festivals prevails to an alarming extent amongst the Brazilians, and is winked at by the authorities. However, this case has had a very salutary effect in diminishing the nuisance. I was on the spot in about a quarter of an hour, and found the man on the floor in an unconscious state. His right hand was blown off just above the wrist, and his right eyeball burst; a day or so after I also found both tympanic membranes burst. The amputation of the hand was completed, and a great gash in the palm of the left hand was dressed. The shock was very severe, and required free stimulation for twenty-four hours. On the third day the pain in the destroyed eye was so great that I had to extirpate it. The man's recovery was very slow. Sloughing of the palmar flap occurred and much retarded healing; but after two months he was able to be on horseback again—"a sadder but a wiser man."

This case is of interest in showing the very localised action of the dynamite. The bursting of the eye and

[1] Experienced miners here say that in mines where dynamite is largely used, exuded and unexploded nitro-glycerine is frequently met with, and is a recognised danger in using dynamite for blasting.

tympanic membranes was induced by the concussion, and beyond scorching his chest and face no other damage was sustained.

Whilst writing the above another explosion has occurred similar to Case 4, but happily without doing serious injury.

I am fully aware that no special point of surgery is illustrated in the narration of these cases, and it is not with that intention that I record them. They are interesting and also instructive, in so far as they show a necessity for the greatest care in the manufacturing and using of such dangerous articles. I might say more on this point, but a medical journal is hardly a suitable medium.

Morro Velho, Brazil.

CASE OF VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASE.

BY FERDINAND A. PURCELL, M.D.,
SURGEON TO THE CANCER HOSPITAL.

THE case of extirpation of the uterus and its appendages per vaginam which I have to report makes my fourth successful case. A record of the three previous cases appears in a paper by me, and is published in the *British Gynæcological Journal* (May, 1887, Part ix., p. 60), and was read before the Society on March 9th of this year. I intend to give a full report of this case to show that I have not, with my additional experience, departed from the plan of operation followed in my first three cases.[1]

We may take it for granted that kolpo-hysterectomy is only justifiable when the body of the uterus is cancerous, or when the disease commences near the os internum; and unjustifiable for cancer of the cervix alone, or when the walls of the vagina have been encroached upon, for in the latter condition the surrounding cellular tissue has already been infiltrated, and recurrence after operation will undoubtedly take place in a very short space of time.

Operators are still divided as to the details of the operation: as to whether the peritoneum should be entered in the anterior fornix or the posterior fornix; whether the fundus is to be brought down through the anterior wound or the posterior one; or not to make the uterus perform a somersault at all, so as to avoid all risk of soiling the peritoneum with the discharges from the diseased os and neck; or whether it is not advisable to remove the diseased cervix as a preliminary operation by amputation or with the curette; whether the broad ligaments should be ligated *en masse*, or in segments, or to rely on pressure forceps to be left *in situ*; whether the ovaries ought to be removed; whether the vaginal walls and peritoneal edges should be brought together with suture, or leave the vaginal wound unclosed; and whether a drain is to be used.

Mrs. Eliza K——, aged forty-six, was admitted into the Cancer Hospital on June 17th, 1887, being a patient sent to me from Birmingham by Dr. John W. Taylor, who had curetted and cauterised the os and cervix about three months previously at the Birmingham Hospital for Women, and where she was at the time examined by Mr. Lawson Tait. The patient is a fairly well-nourished woman, the mother of one child aged twenty-four years, and had always enjoyed good health until about twelve months ago, when she had vomiting of blood and violent pains across the pit of the stomach and back. Three months subsequently (Sept. 1886) a vaginal discharge came on, and pain, with difficulty in micturating, necessitated treatment under the care of Dr. John W. Taylor, and in January he performed an operation on the urethra. Some six weeks later malignant disease of the os and cervix was discovered; for this she was examined, in conjunction with Dr. Taylor, by Mr. Lawson Tait, and had the os and cervix curetted and cauterised by Dr. Taylor. Recurrence of the disease showed itself about three weeks ago, for which Dr. Taylor advised kolpo-hysterectomy, and kindly sent her to me. The disease now occupies the stump and neck as far up, if not beyond, the os internum; walls of the vagina are sound. On examining with the two fingers in the rectum and the other hand over the pubes, the body is found larger than normal, more particularly its left half; the organ is freely movable, and the broad ligaments appear healthy; no enlarged glands are to be felt. She has passed the menopause. There is no family history of cancer or of phthisis to be made out. Father died at seventy-nine; mother died at seventy-two, having had thirteen children. After a consultation with my colleagues, and having decided that removal of the uterus was justifiable, fully explaining the nature and risks of the operation to the patient, as also to her husband, and which they had had previously explained to them by Dr. Taylor, consent was given and the best wished for.

On June 23rd I proceeded to operate, assisted by my colleagues, Dr. Snow and Mr. Jessett. Dr. John W. Taylor came up from Birmingham and was present, as also Mr. Henry Reeves, and other visitors. The patient was placed in the lithotomy position, the bladder emptied, and vagina and parts douched with carbolised water; a duck-bill speculum in the posterior fourchette, aided by the fingers of my assistants, brought the parts well into view. Steadying the uterus by fixing a vulsellum in the cervix, the mucous membrane was incised all round, the anterior and posterior flaps reflected upwards, the bladder kept out of the way, and a segment pinched up laterally (first one side then the other), and a ligature passed through it with an aneurysm needle, so as to include the lower uterine vessels, was tied, and divided away. The peritoneum was entered both anteriorly and posteriorly, and the apertures enlarged by tearing; the two fingers of the right hand were passed up through the anterior opening and over the fundus, and then over the right broad ligament, which it was made to encircle. Now a silk thread was passed by means of a long well-curved aneurysm needle on the finger, until it encircled the broad ligament and insinuated down posteriorly; the thread was hooked out of the eye and the needle withdrawn; the broad ligament was gently drawn down and examined for absence of ureter. Feeling satisfied of its not being present, the ligature was tied. Tying the broad ligament *en masse*, close up to the ligature on its uterine side, I applied two pressure forceps as a guard, and, cutting the thread short, divided the parts away from the uterus with scissors. The pedicle receded together with the forceps; the uterus sidled down, presenting its right cornu; the left-hand fingers now were passed in front and above the left broad ligament, followed by a silk thread, which was passed through the substance double. Having examined for absence of ureter and not observed, it was tied double and again encircled, clamped with pressure forceps and divided. The Fallopian tube was not included, and on bringing the uterus down, which was now free, the left ovary came down along with it, and on gently drawing, the Fallopian tube followed, when all was withdrawn; the Fallopian tube on the right side had been included in the pedicle, but now the right ovary was felt for and brought down, its attachment tied and severed, and it was got away. Parts around and within were douched, cleaned, and dried; there was no oozing of blood, and little blood was lost. The pressure forceps were all carefully taken off; no attempt at closing the vaginal or peritoneal wound was made. Bladder and bowel and surrounding parts were finally examined, a glass drain, with its end rounded, but perforated, was inserted; this and the vulva was covered up with a large pad of salicylic wool and fixed by a T bandage; patient was removed to her bed in the general ward. The operation from first to last occupied one hour and twenty minutes.

In the evening, after operation, the pad and draw-sheet were found saturated with coloured water. Four ounces of urine were drawn off, and it was ordered to be drawn off by catheter when necessary. Temperature ranged between 96·8° and 97·4° F. The patient partook of ice only.

June 24th.—Patient passed a comfortable night; had no sickness. Five ounces of urine drawn off. Salicylic wool pad dry; renewed. Iodoform dusted about and up the drainage tube; tube not interfered with. Pulse 74, intermittent; temperature (twenty-four hours) ranged between 98·2° and 100·2°.

25th.—Slept at stretches of an hour; comfortable; no sickness. Was given six ounces of barley water during the night, and one drachm of essence of beef given twice; pad dry. Urine free. Temperature (twenty-four hours) ranged between 100° and 99·4°.

26th.—Very comfortable night; slept two hours at a time. Urine drawn off. Pulse feeble and intermittent. Pad dry. The drain taken out for the first time; only a small piece of shred found clung in a couple of the holes; its inner surface is coated with iodoform; no smell; cleaned and replaced as before. Diet increased—fish, the essence of beef

[1] For first case see THE LANCET, Jan. 31st, 1885, p. 209.

more frequently, barley water, and arrowroot. The temperature during the forenoon was 99·6°; afternoon to midnight it ranged from 100° to 101·4°.

27th.—Took nourishment well. At 5 A.M. complained of sickness and pain in left iliac. Urine drawn off. Abdomen is tympanitic. Passed some flatus, but with difficulty. Slight discharge found in the glass drain. Applied a turpentine fomentation, which relieved her. The wool pads were more soiled later on. Temperature for twenty-hours ranged from 99·4° to 101·8°.

28th.—Slight pain in left iliac; urine drawn off; pad not much soiled; tube contains pus; taken out and cleaned; was reinserted, and then iodine water was injected through it, bringing away some purulent discharge enough to colour the water. Temperature 99 6° to 101 8°.

29th.—Complains of a throbbing pain in urethra; pad slightly soiled. Temperature 99 6° to 102·4°. To have a turpentine enema; iodine water douches to be continued twice a day.

30th.—Temperature was high all night; rose to 101·8°, and in the afternoon from 101·8° to 102 4°; enema acted slightly; pad but little soiled. To have a teaspoon of oil.

July 1st.—Slept well and taken nourishment. The tube is half full of pus; the syringing with iodine water has been done night and morning regularly. Temperature 101·8°, 99 2°, and 100 6°. Bowels acted well.

2nd.—Pulse 66, regular; eats well; discharge of pus continues. Temperature 100 4° to 98·4°.

10th.—Discharge lessened every day. The tube is now removed, and she is permitted to pass urine of herself, and allowed up on the couch. From this she became convalescent and began to walk about. Examined the vagina; found that the two fingers passed up to their full length; the vault is broad, and not at all contracted; the broad ligament pedicles distinctly to be felt. Returns home to Birmingham.

Manchester-square, W.

ON A METHOD OF DETECTING AND REMOVING NEEDLES EMBEDDED IN THE TISSUES.

BY H. LITTLEWOOD, F.R.C.S. ENG.,
RESIDENT SURGICAL OFFICER TO THE LEEDS GENERAL INFIRMARY.

I BELIEVE the general advice given by surgeons when a needle becomes embedded in the tissues, if it cannot be felt, is "to let it alone," with the hope that it will either work its way out or become embedded where it will give rise to no trouble; the reason being that the task of removal under these conditions is always very difficult and often impossible—almost like looking for the proverbial needle in the haystack. Having had several such cases, where I could not be actually sure of the presence of the needle, I have gone on the plan of "letting alone"; in two or three cases the patients have come to me several weeks after, bringing the needle, which had worked its way out, they having in the meantime undergone several weeks of pain and mental anxiety. These cases led me to try if it were not possible first to detect the presence of, and then remove, the needle. Since then I have adopted the following plan with considerable success.

1. The part supposed to contain the needle is thoroughly rubbed over with an electro-magnet, so as to magnetise the metal if present. 2. A delicately balanced magnetic needle is held over the part. If the needle is present, its position can be ascertained by the attraction or repulsion of the poles of the magnetic needle. 3. Having ascertained the presence of a needle (e.g., in the hand), the part is rendered bloodless, and a grain or more of cocaine injected hypodermically. 4. An incision is made over the ascertained position of the needle. 5. The electro-magnet is then inserted into the wound, and with it the needle is felt for. Sometimes it will be found and removed quite easily, at others great difficulty will be experienced, taking as long as one-half or three-quarters of an hour. This may be due to the fact that its position has not been accurately ascertained; it may be lying across the incision, or it may be so firmly embedded in the tissues that the electro-magnet is not able to withdraw it. If this occurs the incision must be enlarged, and the edges held apart with some non-magnetic retractors; using the electro-magnet as a guide, the needle may be seen and removed with forceps. If the needle is firmly fixed, the following plan has been adopted: by placing the positive pole of a galvanic battery on the surface of the body and the negative pole in direct contact with the needle, this becomes loosened by electrolysis and can then be easily removed by the electro-magnet. This latter method has been found useful in two cases for the removal of sewing machine needles that had transfixed the end of the finger, and were so firmly fixed as not to be removable by forceps. The electrolytic action loosened the needles so that they could be removed quite easily.

Mr. Marshall, in his lectures on Surgery at University College, used to tell us that needles &c. could be detected in the tissues by the method described above. I had not seen it practically tested. After having removed two or three needles by the method described above, I referred to Neale's Digest to see what had been written on the subject. I find the following references which I think will be of interest:—In the *Medical Times and Gazette* (vol. i., 1857, p. 298) is a paper by Dr. Bence Jones, entitled "On a ready method of determining the presence, position, depth and length of a Needle broken into the Foot." In the same journal (vol. ii., 1876, page 531) is a paper by Sir Benjamin Brodie, in which the presence of a needle in the leg of his own son was demonstrated at the Royal Institution by means of the electro-magnet. It was not then removed, but allowed to remain in some time, until it worked its way to the skin on the opposite side of the leg, and then removed. Both these papers refer only to the detection of the needle. In THE LANCET (vol. ii. 1876, p. 700) is a communication by an army surgeon named Thompson describing a case in which he made an incision over the site of a piece of metal embedded, and then bandaged an ordinary magnet over the part for twenty-four hours, with the satisfaction of finding the metal attached to the magnet at the end of that time.

I have now removed six needles from the hand and a piece of steel embedded in the foot. In none of the cases could I feel the piece of metal or be sure of its presence without the aid of the method above described. As it requires some expensive apparatus, and sometimes takes a long time, I am afraid this method will not become general; but it is well worth the time and trouble spent if in the end one is successful; as patients really suffer a good deal of pain and anxiety if these foreign bodies are allowed to remain embedded in the tissues.

ON THE PATHOLOGY OF HEMIPLEGIA.

BY FRANCIS W. CLARK, L.R.C.P., M.R.C.S.,
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As the pathology of certain cases of hemiplegia is still somewhat obscure, I venture to give a brief *résumé* of some thirteen cases of the disease which have come under my care during the past year, with a view to suggesting that some of these depend, in all probability, upon a chronic pachymeningitis of the vault due either to alcoholism or more rarely to rheumatism.

Of the thirteen cases three were due to massive hæmorrhages into the brain, as verified by post-mortem examination; and hence these cases need not detain us at all.

Of the remaining ten cases, in two only were there any evidences of morbus cordis. The first of these—George K——, aged forty-five—had an attack of right hemiplegia, with *left* facial palsy, from which he recovered to a great extent in the course of a few weeks. Four months later, however, he succumbed to the effects of the morbus cordis, but, unfortunately, no necropsy was granted. The crossed paralysis in this case is suggestive of the lodgment of a small embolus in the pons Varolii.

The other case associated with morbus cordis was that of Jesse Y——, aged sixty-eight, who had an attack of left hemiplegia six years ago, from which he recovered in a short time; a second attack, on the same side, four years ago, with recovery; and he is now convalescent from a third attack, also on the left side, but this time associated with difficulty of articulation. As there is in this case also a history of alcoholism, I shall refer to it again under that head.

In one case only was there a history or any evidences of syphilis—namely, that of a young man (J. P——) aged

thirty-six, who rapidly recovered from an attack of right hemiplegia under the influence of iodide of potassium.

In two cases the hemiplegia was associated with occasional epileptic attacks: one of these being a man (J. H——) aged forty-eight, who has had right hemiplegia for some years past; and the other, a woman (S. H——) aged fifty-seven, who had an attack of left hemiplegia, from which she recovered in the course of a few weeks, and in whom there was a strong history of alcoholism.

Of the remaining five cases, one had been bedridden for some months with chronic rheumatic arthritis, while in the other four there was a well-marked history of alcoholism.

Mary G——, aged seventy-one, of a marked rheumatic diathesis, was suddenly seized with paralysis and anæsthesia of the left arm; the left leg was cold and anæsthetic, but not paralysed. Four days later the paralysis had much improved, and it continued to improve slowly until her death, which occurred twenty-five days after the seizure. At the necropsy the dura mater of the vault was found thickened and adherent to the brain along the median fissure, but otherwise both brain and spinal cord appeared perfectly healthy. The heart was fatty, but otherwise normal, the lungs œdematous, and the kidneys normal.

The cases with a history of chronic alcoholism were as follows:—

George T——, aged forty, had a sudden attack of right hemiplegia, from which he recovered in the course of a few weeks.

Mary Ann W——, aged fifty-seven, had an attack of right hemiplegia eighteen months ago, from which she has been for some few months convalescent.

Robert C——, aged sixty, had an attack of right hemiplegia, with rapid recovery.

William W——, aged sixty-eight, had an attack of left hemiplegia with amnesia four months ago, from which he recovered in about a month. A second attack occurred a month ago, this time on the right side, and again associated with amnesia, from which he is now convalescent, the amnesia, however, remaining.

Also in the two cases mentioned above—namely, Jesse Y—— with associated heart disease, and Sarah H—— with occasional epileptic attacks—there was a well-marked history of chronic alcoholism.

In none of these cases was there any facial palsy. Hence it would, I think, appear that, in these seven latter cases at least, the transient nature of the paralysis, its alternation from side to side, as illustrated in the case of Wm. W——, its frequent recurrence, as specially illustrated in Jesse Y——, and again the results of the post-mortem examination of Mary G——, are all of them suggestive of some temporary pressure upon the cortex of the brain such as would be occasioned by a slight and transient kindling of the chronic inflammation of the dura mater of the vertex, so common in the later stages of chronic alcoholism, and to a less extent of chronic arthritic rheumatism.

CASE OF

CHRONIC HYPERTROPHIC CIRRHOSIS OF THE LIVER; WITH REMARKS.

BY ALEXANDER YULE, M.D., C.M. ABER.

JOHN T——, aged sixty-three, a Sussex labourer, came under my observation in 1880 suffering from dyspeptic symptoms and difficulty of breathing. This would last for a few days, and his usually indifferent health followed. I examined his chest, and observed that at one time he had had empyema. There was a cicatrix under the left breast; the lower half of the left side had fallen in, and the lung shrunk. This occurred many years before I first saw him. The want of breathing capacity and feeble action of the heart I attributed to the changes in the chest. I examined the heart frequently, and failed to find a murmur. There was at first a little swelling of the feet and lower part of the legs. The size of the abdomen varied according to the action of the bowels and kidneys, but at all times was much distended with serum. The liver was enlarged in every direction, and the urine albuminous. In 1883 and 1884 increasing anæmia and dropsy supervened, associated with which were symptoms referable to kidney, liver, and lungs—viz., transient and recurrent jaundice, vomiting, &c. The disease proved fatal in July, 1885, from chronic hypertrophic cirrhosis and asthenia. The man had always been of sober habits, and there was nothing personal in his history differing from what is found amongst the labourers in these parts, such as exposure to the vicissitudes of weather.

From a physiological point of view these cases are interesting. In common parlance, it was a case of premature break-down, and beyond the remedial power of medicine. The patient inherited the seeds of the disease, to develop sooner or later, according to circumstances. He was unhealthy to begin with, the error being in the blood and in the organs that deal with nutriment. Be that as it may, the same constitutional dyscrasia that had caused a pleurisy to degenerate into an empyema, with, subsequently, much formation of fibroid tissue, when once the flood-gate of impure blood had been opened, led to degeneration in other parts. Why the liver should not have been the subject of gin-drinkers' cirrhosis I take to be in the difference of the originating causes: in the one case, alcohol being more of an irritant, inflammatory changes with thickening of the tissue resulting, and contraction; while in the other, added development of fibrous tissue, with increase of bulk. In the former case, one would expect the disease to be more rapid and painful on account of the greater activity of the poison. Lung affections and short breathing are common among those who have lived for some time in tropical climates, on their return to temperate parts. The liver is invariably affected. In these cases, not uncommonly, from sudden chill, a fatal congestion or bronchitis results, and there being possibly pre-existing fibroid affection of the lungs, may not that be a predisposing cause of the untoward event? The *rationale* would be evident. Blood dyscrasia, from the liver not performing its appropriate functions of depuration, alteration, or otherwise, and therefore the cellular structure of the lungs being supplied with unsuitable nutriment, perverted growth would ensue. Thus the vena porta brings blood to the liver, and it is altered there, and made fit for nourishment of tissues (altering venous blood in other systems before it is arterialised). However, when what is brought to the liver, or when the liver, from occult causes, in digestive or other parts (or in itself), causes a failure of proper nutrition, the tissues (lungs, kidneys, spleen, and elsewhere), instead of their normal constitution being maintained, will consequently have substituted some other than their healthy formation, in excess or in defect, as the case may be. Where so large and so important a viscus as the liver exists, we cannot suppose but that its functions are of the utmost importance. The many morbid states it displays without immediate fatal interference or death point otherwise; so, likewise, may it be said of every other organ of the human body, from the brain to the smallest cell, which may remain unsound throughout life to a greater or less extent. A great part of the way of diseases is as unknown. The want of access to medical libraries will, in the remarks I have made, be my excuse for the total absence of reference to authorities on this subject. Blood dyscrasia is a wide field, and its connexion with morbid growth, fatty fibroid, and other degenerations requires investigation.

A NOTE ON "TROPICAL ULCER."

BY GEORGE RANKING, M.D. CANTAB.,
SURGEON, 5TH BENGAL CAVALRY.

I HAVE adopted the above name for the form of ulcer which I am about to describe for two reasons: firstly, because it leaves open the question of causation; and, secondly, because, never having met with cases of ulceration exactly conforming to this type elsewhere, it has been my lot to see large numbers in tropical latitudes, under various names taken from the locality—e.g., "Delhi boil," "Meean Meer sore," "Scinde sore," &c. The ulcer commences usually as a small circumscribed patch of inflamed skin. This is attended with pain of varying intensity, but generally only amounting to burning or itching sensations. The skin on palpation is found to be boggy, with a zone of œdema surrounding it. Very soon there appears a dark central spot, which ulcerates, leaving a small perforation, through which issues a larger or smaller amount of thin

unhealthy purulent fluid. Quickly the edges of this perforation ulcerate away, and it is seen that the skin is undermined over the whole extent of the inflamed area. Eventually, when the whole of this skin has sloughed away, there is left a ragged ulcer with thickened edges and with a base of sloughing cellular tissue. The edges are much raised, so that the ulcer appears deeper than it really is. This ulcer partakes of the nature both of the irritable and indolent ulcer, inasmuch as it is sluggish, with indurated and elevated borders of more or less irregular outline, and surrounded with more or less œdema, according as it occurs in a dependent part or otherwise. It is also painful, often excessively so, the pain being sometimes so great as to be hardly bearable, at other times almost *nil*. In these accessions of pain there is almost always a marked tendency to periodicity. It is, however, in its healing that it presents one of its most peculiar features: a scaly-looking scab, which retards healing greatly if not removed, is apt to form over the ulcer. If, however, this be prevented, the edges of the ulcer gradually heal, with marked exfoliation of epidermis, which, if allowed to become dry, forms a ring of adherent horny scales, removal of which is generally attended with bleeding. The newly-formed skin round the edges of the healing ulcer, and also the skin of the ulcer when healed, show this scaling process for some time subsequently. A certain amount of pigmentation remains after the ulcer has healed; this in Europeans is of a bluish tinge, and in natives of India somewhat the same, making allowance for the difference of colour in the healthy skin. It is in no way comparable with, or liable to be confounded with, specific pigmentation.

In treatment these ulcers are peculiarly obstinate; all recognised modes of treatment by rest, position, strapping, Martin's bandages, aided by iodoform, iodine, carbolic acid, boracic acid, and what not, fail signally to effect the slightest improvement till the peculiar nature of the ulcer is recognised and made the basis for a system of treatment. And here, though I do not wish to discuss the etiology of these ulcers, I wish to remark, *en passant*, that without anti-malarial treatment these ulcers will never heal soundly, and that when once the patient is put upon largish doses either of quinine or arsenic, the simplest local treatment will suffice to effect a comparatively speedy cure. Of the local measures adopted for the cure of these ulcers, frog-skin grafting I have found most successful. The operation of "fringing" or snipping the edges round, with free division of the fibrous base of the ulcer, in long-standing cases, must precede all other local measures. My attention was first called to this method of treatment by a paper which was published towards the end of 1884 by Dr. Allen of Leadgate, co. Durham. The paper may be found at p. 875 of THE LANCET for 1884, dated Nov. 15th. I can fully corroborate all that Dr. Allen says in that paper, except that I have not found the frequent necessity for a series of grafts which he describes.

My cases had, with one exception, been in native soldiers. That exception was the case of an officer, who suffered from severe ulceration of the foot, off and on, for upwards of three years. Two visits to Europe cured the sore for a time, but it recurred each year on return to India. The officer in question suffered from marked malarial cachexia, and was very anæmic. After almost every drug had been tried, the real nature of the sore was appreciated, having been hinted at by the periodicity of the pain and occasional intercurrent attacks of ague. Treatment by quinine speedily brought about healthy action in the ulcer, and when this was sufficiently healthy to admit of grafting, frog-skin grafts were applied, and the ulcer speedily healed soundly and well. The resulting cicatrix was firm, sound, and appeared likely to remain so.

After this case the regiment with which I am serving was in Beluchistan, in a notoriously unhealthy district, where scurvy is endemic and ulcers of the kind now under consideration are extremely common. The men suffered greatly from these sores, and every officer in the regiment, with one exception, had several, either on the arms or legs. I went on leave in August, when these sores were just beginning to appear, and my place was taken by Surgeon Price, I.M.S.; his experience led him to the same conclusion at which I had arrived—viz., that to be successful in the treatment of this form of ulcer one must have recourse to either arsenic or quinine. When the regiment arrived at Meean Meer in February of the present year, after a year's service in Beluchistan, there were upwards of fifty men in hospital, fully one-half of whom had these "tropical ulcers." These were for the most part on the legs, a favourite place being the dorsum of the foot. They were all put upon quinine and iron, and the foot of course placed in the most favourable position. Many of these ulcers healed readily; but the more obstinate required grafting with frog-skin, after which they healed with astonishing rapidity. I have selected four cases from those treated.

Recruit M. S——, 4th Troop, was admitted to hospital on Jan. 30th, on the arrival of the 5th Bengal Cavalry from the line of march. He was anæmic, and evidently in great pain from a large ulcer on the dorsum of the right foot. He had had this ulcer some two months, it having appeared shortly before the regiment marched, but he had managed to march with the regiment, wearing the country shoe in lieu of his jack boot. The ulcer was as large as a crown-piece, deeply cupped, with high, sluggish, ragged edges. His general condition improved slowly, and by the end of February the ulcer, which had for a week previously been treated with a Martin's bandage locally, was in a fit state to graft. Six grafts from the belly of a frog were applied; healing was seen to be going on when the first dressings were removed on the fourth day, and proceeded uninterruptedly, being complete by March 15th. He was discharged to duty on April 12th, with a soundly healed foot, able to wear his jack boots and perform all his duties with efficiency.

The other three cases are as follows:—

Sowar No. 112. S. C——; admitted on Feb. 4th; grafted on March 2nd; discharged to duty on April 17th.

Sowar No. 500. S. S——; admitted on Feb. 5th; grafted on March 2nd; discharged to duty on March 29th.

Sowar No. 275. G. S——; admitted on Feb. 5th; grafted on March 1st; discharged to duty on May 7th, 1886.

These are a few of the cases. The point which has forced itself upon my notice is that, once the essentially malarial nature of these ulcers is recognised, they prove as amenable to treatment as any other ulcer. If, on the other hand, one ignores, whether from prejudice or other cause, this malarial factor, the "tropical ulcer" proves not only a most stubborn foe to the medical officer, but a most fruitful source of loss of service to the State.

Meean Meer.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. THOMAS'S HOSPITAL.

A CASE OF INGUINAL ANEURYSM SUCCESSFULLY TREATED BY LIGATURE OF THE EXTERNAL ILIAC ARTERY; WITH POPLITEAL ANEURYSM IN THE OPPOSITE LIMB, TREATED BY COMPRESSION AND GALVANO-PUNCTURE. NECROPSY, EIGHTEEN MONTHS AFTER OPERATION; REMARKS.

(Under the care of Mr. WILLIAM ANDERSON.)

IT is seldom that we are able to publish a case in such complete form as that recorded below, and the unusual condition of the inguinal aneurysm as found post mortem and illustrated by the diagram is very interesting. How far the introduction of the needles into the sac and the passage of the electric current through them may have contributed to the successful treatment of the popliteal aneurysm it is difficult to say, so many cases apparently similar having been cured by simple digital compression. The special precautions taken in the management of the needle punctures are worthy of note, and we shall be glad to see the records of other cases of aneurysm treated in a similar manner. For the notes of the case we are indebted to Mr. R. V. Solly, dresser.

The patient, a carman, aged forty-two, was admitted on July 20th, 1885, with the following history. Health always good, but habits rather intemperate. He was not aware that he had had any venereal disease, but he suffered from an

abscess in the right groin seven years ago, and three years later was laid up for three weeks with acute epididymitis. There was no history of secondary manifestations of syphilis. Seven or eight weeks before admission he observed a pulsating swelling in the right groin. As this enlarged and at length became painful, he attended at the hospital.

On examination a large aneurysm was found in the right groin. It was pear-shaped, about three inches and a half in length and two inches in its greatest transverse diameter, and the narrow upper extremity extended for a short distance beyond Poupart's ligament into the pelvis. Further exploration of the arterial system led to the discovery of a second aneurysm, about the size of a hen's egg, in the upper half of the left popliteal space. The patient had not previously been aware of the existence of this tumour, but thought it might have been caused by his habit of riding on the cart with the leg hanging over the side, the ham resting against the edge of the vehicle. The general health appeared to be fairly good, and the heart and lungs were normal. The left pupil was larger than the right, both however acting to light, and on convergence.

Under the influence of rest the man improved during the first week of his stay in the hospital, but at the end of this time the inguinal aneurysm began to enlarge rather rapidly, and the limb became swollen and painful.

On July 31st Mr. Anderson tied the right external iliac artery. The vessel was exposed under antiseptic precautions, by means of an incision three inches long, parallel to and an inch above Poupart's ligament. A ligature of stout carbolised catgut was applied about an inch and a half above Poupart's ligament, and after the insertion of a drainage tube the wound was closed and dressed with iodoform gauze and salicylic wool. The pulsation of the aneurysm was completely arrested immediately after the tightening of the ligature. The surface temperatures of the lower extremities after the operation were as follows:—Two hours after: left, 95·2°; right, 90·4°. Five hours after: left, 97·8°; right, 95·2°. Nine hours after: left, 97·4°; right, 98°.

During the next few days the right leg was generally half a degree or a degree cooler than the left, but on one or two occasions its temperature rose somewhat higher than that of its fellow. The equilibrium was permanently established by the end of a week. The wound healed by first intention, and no unfavourable symptoms arose until nearly two months after the operation, when the patient, having undergone treatment for the opposite limb, was allowed to get up. A recurrent pulsation was then observed in the apparently cured aneurysm. The impulse gained in strength during the next fortnight, after which it remained stationary. The tumour, which had shrunk after the ligature of the artery, did not become larger after the reappearance of the pulsation.

The treatment of the popliteal aneurysm was commenced on September 3rd. Digital compression of the common femoral was started at 2 P.M.; an hour later two Duncan's needles were introduced into the sac and connected with the poles of a Stohrer's battery; a current from sixteen cells was passed for five minutes, after which the needles, carefully packed with antiseptic wool, were left *in situ*. On the following day, at 10.15 A.M., the compression was discontinued and the needles were withdrawn. Pulsation was found to be completely arrested. The temperature of the limb during the next twelve hours sank four or five degrees Fahrenheit below that of the opposite leg, but gradually rose again to the normal level on the following day. The needle punctures showed no signs of irritation, and were closed by the end of the second day after the cure. The patient was allowed to leave his bed on the 20th, and was shortly afterwards discharged.

During the next few months the man showed himself from time to time, and appeared to be in very good health. He was following the employment of a tram conductor, and said he was able to do his work without difficulty. The pulsation in the inguinal tumour persisted, but there was no increase in its force, and the sac had not enlarged.

On the 10th of January last the patient, who had been absent for over a year, was brought to the hospital in a state of extreme prostration, suffering from severe cough and dyspnœa, with signs of aneurysm of the arch of the aorta. No change had taken place in the inguinal aneurysm, which still pulsated, but the popliteal tumour was smaller, and remained quite solid. The thoracic symptoms made rapid progress, and death occurred on the evening of the 13th.

At the post-mortem examination a large sacculated aneurysm was found on the right side of the ascending part of the arch of the aorta; the lungs were congested, and showed patches of broncho-pneumonia; and the large arteries were extensively diseased. The heart walls and valves were normal, and no evidence of pre-existent syphilis was anywhere to be seen. The two aneurysms operated upon by Mr. Anderson were removed entire. The condition of the parts was as follows:—The external iliac artery at the seat of ligature was reduced to a solid cord of about one-tenth of an inch in diameter, and the canal above this point was filled with clot as high as the bifurcation of the common iliac, and below as far as the aneurysmal sac. The aneurysm itself was of pyriform shape, about two inches in length, and involved the whole circumference of the artery down to the origin of the profunda; the lower part of the tumour was dilated into a kind of fundus, with which were connected, separately, the superficial femoral, the profunda (joined immediately below by its external circumflex branch), the internal circumflex, and a large muscular branch. On section, the sac was found to be almost filled with coagulum, partly soft, reddish, and friable, and partly pale, firm, and laminated; but at the lower and back part of the aneurysm was an irregular cavity or sinus, into which opened the vessels named (see diagram), and which was occupied in part by a string-like coil of decolourised fibrin that extended below into the common femoral. The popliteal aneurysm offered nothing special for notice. It was of about the size and shape of a small chestnut, and sprang from the inner and back part of the vessel, about an inch above the bifurcation. The artery was impervious as low as the origin of the anterior tibial, and the vein was obliterated to a corresponding extent. The sac was filled with friable clot, without any fibrinous laminæ, and appeared to have originally communicated with the main vessel by a rather small aperture. The popliteal artery of the opposite side was somewhat dilated above its bifurcation, and nearly opposite to this the vein was obstructed by a decolourised thrombus of old date.

Semi-diagrammatic outline of aneurysm and vessels. *a*, Internal circumflex. *b*, Muscular branch of internal circumflex. *c*, External circumflex. *d*, Deep femoral. *e*, Superficial femoral artery. *f*, Cavity with thread-like coil of fibrin. *g*, Laminated fibrin. *h*, Soft clot.

Remarks by Mr. ANDERSON.—Recurrent pulsation in the sac of a femoral or inguinal aneurysm after ligature of the external iliac artery has been recorded in several instances; but this case presents certain peculiar features of its own. An examination of the diagram will show that a complete consolidation of the tumour would almost inevitably have entailed gangrene of the limb, as the principal collateral stream could only reach the superficial and deep femoral vessels by passing through the fundus of the sac. So long as the patient was recumbent and at rest the force of the

in-coming current was not sufficient to give any noticeable impulse to the tumour, but as soon as exercise was resumed pulsation reappeared, and a secondary cavity of considerable size seems to have been formed at the expense of the soft coagulum. At a later stage the dimensions of the cavity underwent progressive diminution by the deposit of laminated fibrin upon its walls, and had the patient lived longer the obliterative process would probably have advanced much further, although it is unlikely to have ever become complete. At one period in the post-operative history of the tumour the development of a secondary aneurysm, having the same tendencies as the first, was more than a possibility. Had this occurred, the treatment of the condition would have been a very serious problem.

The plan adopted for the cure of the popliteal aneurysm needs only a brief allusion here, as the case, with some others of the same kind, will shortly be published separately. It is impossible to say how far the electrical current was useful as an adjunct to compression in the present case, but in the method of its application certain modifications were introduced which appear to obviate almost entirely the danger of galvano-puncture, and to promise an increase in its efficiency. There were (1) the brief duration of the current, by which precaution the injury to the tissues traversed by the needle was reduced to a minimum; (2) the retention of the needles *in situ* for many hours after breaking the circuit, in order that the clot formed under the influence of the electricity might be held in the middle of the blood stream as a nucleus for fresh deposits; (3) the use of special measures to prevent the occurrence of septic inflammation of the needle punctures, and, through these, of the interior of the sac.

MANCHESTER ROYAL INFIRMARY.

A CASE OF COMBINED LATERAL AND SUPRAPUBIC LITHOTOMY.

(Under the care of Mr. HARDIE.)

WE are indebted for the notes of the following case to Mr. Seville, house-surgeon.

J. A——, a healthy-looking, well-nourished man, aged forty-two, was admitted on April 1st. The history was that during the last twelve months he had been much troubled with sharp cutting pains during and after micturition. On several occasions he had noticed blood in the urine. He was at once sounded, and a large stone was readily felt; it appeared to be smooth, oval in shape, and about an inch and a quarter in length. The urine was acid and free from albumen.

A uric acid calculus was diagnosed, and lateral lithotomy decided on. This operation was performed on April 2nd. On inserting the finger into the bladder, it was found that two stones were present, one lying free, and the other in a deep pouch, just above the left tuber ischii. The border of this pouch projected about half an inch above the inner surface of the bladder, and was so hard as to raise the suspicion of malignant growth. The loose stone was first dealt with, but all efforts to extract it by forceps and scoop were futile, partly owing to the impossibility of laying hold of it in the long axis, and partly owing to the other stone being dragged at the same time towards the opening and blocking the way. Attempts were then made to dislodge the encysted stone, but these were likewise unavailing. The question of breaking the stones with the lithotrite and extracting the fragments by the perineal wound, or of opening the bladder above the pubes, was then considered, and the latter operation decided on. A sound was therefore passed into the bladder by the perineal wound, and made to project above the pubes. An incision about three inches long was made in the middle line just above the symphysis, and careful dissection carried on till the bladder was reached. Two strong threads were then passed in a longitudinal direction and about half an inch apart through the wall of the bladder, which was rendered prominent by means of the sound, and the viscus was opened between them. There was now no difficulty in seizing first the one and then the other stone with lithotomy forceps and extracting them. A lithotomy tube was introduced into the perineal opening, and the suprapubic wound was simply dusted with iodoform and lightly covered with a dry absorbent dressing. The stones were very similar in shape and size, being oval or somewhat triangular in outline, with flattened surfaces. They were found to weigh 2 oz. 80 gr. and 2 oz. 50 gr. respectively.

The patient very rapidly got over the effects of the chloroform and the shock of the operation. In the course of the next few days the urine became very foul, and the bladder was therefore washed out twice daily, through the perineal opening, with a warm saturated solution of boracic acid. Except for slight pains in the lower part of the abdomen and some flatulence the patient expressed himself as feeling quite well. On the 5th urine began to flow from the suprapubic wound, and a few days later the greater part escaped by it, scarcely any coming by the perineal tube, which was therefore removed. On the 23rd a little urine for the first time escaped by the urethra. As the perineal wound had now almost closed, the bladder was washed out by passing a tube into the suprapubic opening and allowing the fluid to escape by the urethra. During the next month, except a little improvement in general health, no appreciable progress was made; but towards the end of May the suprapubic wound began steadily to contract up, and by the end of the month was too small to admit the insertion of the tube to wash the bladder; it did not, however, finally close till three weeks later. The interior of the bladder was examined with a sound, and the part corresponding to the situation of the pouch was felt to be very rough and irregular. It was supposed that much of the discharge was occasioned by its sluggish filling up and healing. During the early part of June a solution of nitrate of silver was applied to the interior of the bladder once daily. The strength used was five grains to the ounce at first, gradually increased to ten. Under this treatment the cystitis rapidly improved, and with it the general health. The patient went home on June 24th.

DEVON AND EXETER HOSPITAL.

THREE CASES OF COMPOUND FRACTURE OF THE SKULL; TREPHINING; RECOVERY.

(Under the care of Mr. BELL.)

CASE 1.—T. T——, aged twenty-six, a miner in a stone quarry, was admitted on Jan. 1st, 1887. Whilst he was at work a large piece of rock fell on his head, and he became insensible, but regained consciousness prior to admission. On examination, a wound extended downwards from the top of the left side of the frontal bone to the upper edge of the malar bone, at the upper part of the wound over the left temple. The skull was fractured and driven in, the cavity being about the size of a florin; the orbital portion of the frontal bone was loose; there were some loose fragments of bone lying in the wound, and a squarish piece of bone, measuring ¾ in. by ½ in., driven down upon and depressing the brain. Under chloroform, Mr. Bell removed the loose pieces of bone, but was unable to raise the piece which was depressing the brain. He therefore enlarged the wound upwards, and, trephining the frontal bone at the upper edge of the fracture, removed the depressed portion, which had become wedged under the edge of the sound bone; the dura mater was uninjured, and the brain immediately regained its normal position. The wound was washed out with warm weak carbolic solution, and brought together with horsehair sutures, a drainage tube being inserted and iodoform and Gamgee dressing applied. The patient was then placed in bed, and an ice-bag applied.—Jan. 2nd: Temperature 99°; pulse 88. No pain in the head. Was sick twice in the night (chloroform?).—3rd: Temperature 98·4°; pulse 80. No sickness. The drainage tube was removed; dressing as before. From this time he made an uninterrupted recovery, the wound healing by first intention. Before finally leaving the hospital he was fitted with a light celluloid guard

CASE 2.—T. C——, aged forty-three, a labourer, was admitted on March 24th, 1887. He had, about three hours previously, fallen into a stone quarry, a distance of thirty feet, pitching on his head. On admission there was a severe lacerated scalp wound over the posterior superior region of the left parietal bone. On passing the finger into this, a depressed fracture was found. There was also a scalp wound at the back of the head. The left arm was much bruised and very painful; the right arm completely para-

lysed and very cold. Pupils normal; pulse regular at both wrists, but somewhat slow. He was fairly conscious, and had not vomited. Temperature normal. Under chloroform Mr. Bell enlarged the wound, making a T-shaped flap. On turning back the flap a depressed fracture of the left parietal bone was found, and a piece of bone measuring 1 in. by ½ in. was seen driven in upon the brain. A large-sized trephine was applied at a point about five inches above the front of the left ear, five inches above the centre of the left orbital ridge, and rather more than one inch to the left of the central line; the depressed bone was split into plates and driven under the sound bone; these were removed with forceps, and the depressed edges of the sound bone elevated. The dura mater appeared uninjured. The area of bone removed measured about 2 in. by 1 in. Dressing same as in Case 1. After operation, before removal from the room, the right arm became bathed in sweat, and then normally warm.—March 25th: Has had a fairly good night; no sickness, and is quite conscious. Pulse and temperature normal. Can move the right hand slightly.—26th: Dressing re-applied and drainage tube removed; arm recovering.—April 1st: Wound re-dressed; no discharge. Movement of arm almost regained. From this date the patient rapidly recovered, and left the hospital wearing a celluloid shield, the grasp and movement of the right arm being normal.

CASE 3.—A. N——, aged fourteen, was admitted on May 21st, 1887, at 6.30 P.M., having, an hour and a half previously, been knocked down by a railway engine. On admission the patient was unconscious, and lay perfectly still, breathing heavily. When touched or spoken to, he became very noisy and violent. The right cheek and parts around it were very much bruised and swollen, and there was a small oblong wound just above the right eyebrow. On passing a probe into this, a depressed fracture was felt. There was free bleeding from the nose, but none from the ears. His pulse was feeble and slow, and the skin generally cold. Under chloroform, Mr. Bell enlarged the wound longitudinally, and made a vertical incision of about an inch upwards from the centre; the flaps were turned back and bone exposed; a piece of the frontal bone, measuring 1 in. by ½ in., was found fractured and depressed. The trephine was applied to the frontal bone above and to the inner side of the orbit; the depressed and loose bone was removed. The dura mater appeared uninjured. There was some free bleeding. The wound was treated and dressed as in the previous two cases. He made an excellent recovery.

Remarks by Mr. BELL.—These cases were all operated on immediately on their admission to the hospital. This I think of great importance as to successful result, together with the perfect cleansing and drainage of the wound; and I am also convinced that the application of the ice-bag to the head is an essential part of the after treatment.

STANLEY HOSPITAL, LIVERPOOL.

A CASE OF DISLOCATION OF THE HIP IN A CHILD AGED FIVE.

(Under the care of Mr. KELLETT SMITH.)

WE are indebted to Mr. G. P. Newbolt for the following notes.

Charles R——, aged five, was admitted late on May 10th. Ten minutes before admission he had fallen off a waggon whilst playing in a barn, his leg getting twisted under him as he fell.

On admission the child was unable to walk, and complained of pain in the left hip. On examination, the left limb was found to be flexed, adducted, and rotated inwards; there was no crepitus, but the head of the bone could be felt on the dorsum ilii, and the limb was comparatively fixed. On standing the child on the sound limb, the left at once assumed the characteristic position of a dislocation on the dorsum. There was one inch shortening. Having laid him on his back, the limb was flexed, abducted, and rotated outwards. The head slipped in with an audible click, and the deformity at once disappeared, the movements of the joint being perfectly natural. The child seemed much relieved, and at once ceased crying.

The little patient was kept lying on his back for two weeks with a Thomas's hip splint applied. The splint was then taken off, and at the end of three weeks he left the hospital walking perfectly well.

Remarks by Mr. NEWBOLT.—The case is interesting from the rarity of the accident at so early an age, fracture of the shaft being more common. The ease with which it was reduced is also worthy of notice. This, I suppose, may be partially accounted for by the short interval (about fifteen minutes) between the displacement and its reduction. No anæsthetic was used.

Medical Societies.

ACADEMY OF MEDICINE IN IRELAND.

Ovarian Tumour.—Report of Rotunda Hospital.

AT a meeting of the Obstetrical Section held on June 10th, Dr. A. SMITH exhibited a Fœtus of six months. It was surrounded by membrane and had the placenta attached. The most interesting part of the specimen was its posture, indicating how the child had lain in the uterus. The extremities were folded together, the cord was round the neck, and one foot was almost touching the nose. Meconium was coming away from the anus at the time of birth.

The PRESIDENT exhibited an Ovarian Tumour which he had removed from a woman, aged forty years, who had had six children and one abortion. Shortly after her last pregnancy she began to feel a pain at the lower part of the abdomen near the labia; and in a year afterwards a swelling had come on. Twelve months ago she came to the Rotunda Hospital and was advised to submit to an operation, but would not do so and left. Recently she came back to the hospital, being swollen to an enormous size and unable to walk. On examination it was obvious that there had been a large effusion into the peritoneum, and the tumour could hardly be made out. He tapped her on the following morning with an aspirating needle, thinking that he would be able to get off the ascitic fluid and make out the tumour, but only a very small quantity of fluid came away, as the needle was stopped by particles of thick, jelly-like matter. Nevertheless, they got a considerable quantity out, but they could not aspirate the tumour. She had no serious symptom except the great distension; and as it was obvious that the cyst opened into the abdominal cavity, it was thought better to operate at once. He did so on the previous morning. The abdominal cavity was full of viscid stuff, and it was found that the tumour had burst at one side. He tried to remove it, but the walls were so thin that it broke down. The whole abdomen was filled with the viscid, jelly-like mass. The operation was naturally a long one, and the difficulty of getting the matter out of the abdominal cavity was very great. The cavity was thoroughly washed out with a weak carbolic solution. The distension had been so great that the whole vagina was completely prolapsed, and could not be replaced when she lay in bed. The pedicle was one of the thinnest that he had seen for a long time, not being thicker than his thumb, so that there was no difficulty about it once the tumour was removed. The temperature rose on the evening of the operation to 101°; that morning and also that evening it was 98°, and her pulse 104. Her appearance had improved since she was operated on.—Dr. KIDD said he had seen three or four cases in which tumours had burst into the cavity of the peritoneum, and the majority of them did not turn out satisfactorily. The last case of it that he saw he described at a meeting of the old Obstetrical Society. It was complicated with pregnancy, and Sir Spencer Wells was brought over and operated on the lady, but she died on the sixth day. Most of these cases were capable of being diagnosed beforehand; and the inversion of the vagina in them was very remarkable. In cases of ascites Douglas' space was generally protruded; but he did not think that occurred in cases of ovarian dropsy.

Dr. JOHN L. LANE then submitted the report of the Rotunda Hospital for the three years ending Nov. 3rd, 1886.—Dr. KIDD said Dr. Lane was to be congratulated on this report, which was a satisfactory one in every respect. The most important feature in it was the record of patients followed for five or six weeks after they had left the hospital. It was the fair and right way of estimating the mortality of puerperal conditions. During the first 100 years of the existence of the hospital the mortality,

as stated by Johnston and Sinclair, had been 1·21 per cent.; and during that period antiseptic precautions and treatment were not known. Perhaps if the cases had been followed and counted, as had been done, according to the present report, the mortality would have been greater. It was curious that during the mastership of Dr. Collins the mortality in the hospital from all causes was 0·54 per cent., being less than half the mortality recorded in the present report. They might be sure that all the cases that occurred during Dr. Collins's time were fairly cured; but there was no evidence in his book, as far as he remembered, that the cases were followed as they had been during the last three years. During his time 10,785 patients were delivered, and the total mortality was 0·96 per cent.; and during the last four years of his mastership the mortality was 0·54 per cent. Dr. Macan had succeeded Dr. Atthill in the mastership. During the last few months of Dr. Atthill's mastership there was a remarkable outbreak of puerperal fever in the hospital. The history of puerperal fever in the hospital had been always this: First there came an epidemic with a large resulting mortality; after it subsided they had a freedom from puerperal fever and a gradual decrease in the deaths for three or four years. Dr. Macan's first report did not show a death from puerperal fever. Now they were having an increase in the number of deaths; and he hoped that it would prove the omen of a future corresponding diminution. Dr. Collins entered upon his mastership after an outbreak, and for three years the mortality was low, though considerable. Afterwards, for four years, there was not a case of puerperal fever, and there came the mortality from all causes of 0·54. Dr. Evory Kennedy then entered upon the mastership, and in his first year there was a furious outbreak, with a mortality larger than had ever been known before. He did not think the immunity from the disease at those intervals had been due to any extra precautions, but rather to the natural history of the disease. He did not say a word against antiseptic treatment; on the contrary, he believed in it, recommended it, and followed it as far as his lights enabled him to do. But it was necessary to look facts in the face; and one of these was the natural history of disease.—Dr. BYRNE observed that the report contained no allusion to the mortality of the children during the three years. Many years ago, in Dr. Clarke's time, the condition of the Rotunda Hospital must have been very bad; puerperal tetanus was then quite common in it. Dr. Clarke's attention was directed to the unsatisfactory condition of the place, and he improved it as far as was in his power. Great and remarkable improvements had been made by succeeding masters; but Dr. Macan might be looked on as the pioneer of antiseptic remedies. Yet he appeared to have abandoned them in this report. He appeared to be a good deal in accord with the tendency of the present day, which was to discard all those remedies. During three years of Dr. M'Clintock's mastership—from 1842 to 1845—there were 6664 deliveries; and during Dr. Shekleton's mastership of seven years there were 13,748 deliveries. That meant that during both these masterships the wards had been more crowded than they were during Dr. Macan's mastership. The present master of the hospital had gone on doing the best he could; but there was something more in the facts than could be explained by antiseptic treatment. Antiseptics had been multiplied, yet still puerperal disease remained. Therefore, it appeared to him that antiseptic treatment had proved a failure to a considerable extent. Of the number of patients who died eighteen were primiparæ and twenty-five were multiparæ of from two to five and six births each. This was a little different from the ordinary reports of maternities, which, as a rule, showed that the mortality was greater in primiparæ.—Dr. HORNE considered the report a most valuable one. As regarded the question of mortality, the results given in the present report could hardly be compared with those of the early part of the century; for amongst the old rules of the hospital was one that the master was to "endeavour to keep patients at least five days in hospital after their confinement"; consequently the period of observation was altogether different. The statistics of the present report showed that in 1883 and 1884 there were 176, in which the temperature did not exceed 100·4°; that in 1884 and 1885 the number with such temperature decreased to 94; and that in 1885 and 1886 there was a further fall to 93, which circumstance showed that while the mortality had somewhat risen, the general health of the hospital had improved.—Dr. DOYLE said he looked on this report as the most reliable one that he had ever heard in connexion with the Rotunda Hospital. Hitherto each writer of a report had gone on a different system of making up his statistics; but until one uniform system should be adopted by all, it would be impossible to make reliable comparisons with respect to the mortalities in the various periods.—The PRESIDENT said he had not looked up former mortalities; but in some former reports he had seen as many deaths recorded in a month as had taken place latterly in the Rotunda Hospital in a year. The epidemic theory might be offered as the explanation of that; but he would express his absolute disbelief in any such thing as an epidemic of puerperal fever. There might be a lot of cases in the hospital at a particular time, because even one case was a source of danger; but he repudiated the idea that there could be anything in the air to cause it, or that anything was to come in the third year because it had not come for two years before. He would not attempt to compare present statistics with those of a hundred years ago. They did not call the same thing puerperal fever then that was now known by that name; and it was not now known what former conditions were. If hands and instruments were kept clean he would go so far as to say that puerperal mortality would be almost *nil*. What they had to do was to be on their guard with single cases of puerperal fever, for if there was any want of care in respect of cleanliness or antiseptic precautions, a whole ward might become full of it before they knew where they were. The only difficulty that he felt as regards his belief in antiseptics was how they got rid of puerperal fever without them in old times. In some cases it was more difficult to apply them than in others; but on the whole he thought that antiseptics were the very centre and essence of midwifery nowadays.

The Section then adjourned.

Notices of Books.

The Mineral Waters of Vichy, and the Diseases in which they are indicated, followed by a Sketch of some of the principal Excursions in the Environs. By Dr. C. E. CORMACK. Pp. 375. London: J. and A. Churchill. 1887.—The author of this work states that, while the number of visitors to Vichy has of late years been steadily increasing, the number of English tends to decrease, and is considerably less than it was ten years ago. He has been induced to compile the present volume in the hope of checking this tendency by directing attention to the great efficacy of the waters in the treatment of a number of complaints. The work is divided into two parts: the first giving a description of the various springs (thirty-one in number), and the diseases in which they are generally found beneficial; and the second affording all the necessary information respecting the means of reaching Vichy, the town itself, the thermal establishment, and the different places of interest in its environs or within easy reach of it. The first part might again be subdivided into two: the first section giving a detailed account of the different springs, the mode of using the waters, and the hygiene and diet required during treatment; and the other, a description of the diseases treated at Vichy. In the preface the author has stated that the book "has been composed not so much for the medical profession as for the public; and we have endeavoured to explain in popular language where the thermal treatment is indicated, and how the waters operate." In this point of view we cannot but think that the chapter on the diseases—extending over 124 pages—is a great mistake, and likely to do much more harm than good to the invalids who read it. With that exception the work will be found of value, furnishing, as it does, much useful information respecting Vichy and its waters. If a second edition is called for, we would strongly recommend the author to excise the chapter, or at least to cut it down to a very moderate size by the omission of a great deal of the purely professional matter. There are

two maps with the book—one of the town, and the other of the environs of Vichy. The latter is merely a road map, and is defective in not showing the mountain ranges. There is also a good index to the book.

The Climate of Llandudno. By JAMES NICHOL, M.D., late Medical Officer of Health. Manchester and London: John Heywood.—In this pamphlet Dr. Nichol discusses the scenic and climatic attractions of Llandudno and their applications to cases of disease. To those who are familiar with this charming Welsh watering place it will not be surprising that the writer should make out a very good case; but his words would carry more weight if they were less of the nature of an unqualified panegyric. The facts adduced prove satisfactorily that Llandudno has a climate of considerable equability and comparative dryness, and that the soil, drainage, and water supply all conduce to constitute it a health resort of decided value. We cannot, however, share Dr. Nichol's surprise that the mean temperature of Llandudno should be as high as that of Eastbourne, Bournemouth, or Torquay, as it is well known to practical meteorologists that in these islands, owing to the influence of the Gulf Stream, the isotherms run north and south, rather than east and west. Thus the little island of Monach in the Hebrides has actually almost as high a mean temperature as Jersey. These facts are, no doubt, commonly ignored, and it is not a work of supererogation to remind the public that the winter at Llandudno is as mild as at some of the most favoured spots upon the south coast. While Dr. Nichol's meteorological facts are marshalled in a workmanlike fashion, we can hardly say the same about his observations regarding the influence of the climate of Llandudno upon disease. He says: "In regard to the class of diseases and conditions of the system to which the climate of Llandudno is adapted, their name is legion. It is beneficial in almost all cases of simple debility, whether general or local, constitutional or inherited, or the result of acute or chronic disease." Vague statements of this kind are of little value. If Dr. Nichol has not met with any cases of debility which are injuriously affected by sea air, we must regard his experience as exceptional. While unable to acquiesce in all Dr. Nichol's enthusiastic eulogies, we are of opinion that the merits of Llandudno, both as a summer and winter resort, are exceptional, and we commend them to the attention of the profession.

A New Basis for Chemistry: a Chemical Philosophy. By THOMAS STERRY HUNT, M.A., LL.D. Cantab., author of "Chemical and Geological Essays," &c. Boston: Cassino. London: Trübner and Co. 1887.—The author of this book, a distinguished American man of science, has been known for many years as an opponent of the atomic hypothesis in chemistry. He now gives us, in a series of essays founded on the latest observations of chemists and physicists, an alternative hypothesis in a coherent form. No true chemist accepts Dalton's great generalisation as an expression of absolute truth, but merely as a convenient and more or less probable mode of accounting for facts. There are many difficulties in the way of the current views of chemical constitution and change, and every inquirer into truth, even if he is not ultimately convinced, will study with interest and profit any new hypothesis which offers a solution of the difficulties. It is not in our province, and would take far too great a space, to discuss Dr. Sterry Hunt's contribution to chemical theory. We can only indicate in a few words his line of argument, and leave those of our readers who are interested in scientific speculation to judge the book for themselves. Matter, according to Dr. Hunt, is homogeneous and destitute of ultimate particles. Each kind of matter is a species distinct in itself, and subject to metamorphoses such as are represented by the solid liquid and gaseous conditions, allotropic and polymeric varieties, and the like. Each species is produced by the integration or disintegration of other species, and he quotes and adopts the definition of Hegel, that "the chemical process is an identification of the different and a differentiation of the identical." Each kind of substance is neither an element nor a compound, but a species. The species from which no other species can arise by mere differentiation is what we call an element. The elements, like all other species, are formed by a genesis such as Mr. Crookes has recently suggested, and, finally, chemism is not to be confounded with dynamic agencies. "It is one of the manifestations of an energy pertaining to matter, which inclines it to integration or disintegration, as conditions favour the one or the other mode of change." This very crude sketch may convey some idea of the new chemical philosophy. It is supported by many ingenious arguments, among which those derived from the law of volumes are perhaps the most important; but it must be admitted that much still remains unexplained, and that the whole scarcely rises above the rank of an able and interesting speculation. As such we welcome it. Time will show whether it will prevail over Epicurus and Dalton, but in any case it is sure to assist in scientific thought.

A Manual of Veterinary Hygiene. By FRED. SMITH, M.R.C.V.S. Pp. 477. London: Baillière, Tindall, and Cox. 1887.—This is a work which cannot fail to prove useful and interesting to all who have to do practically with animals, and especially with horses. The author is Professor of Veterinary Hygiene in the Army Veterinary School at Aldershot, and has had the advantage of being trained in the Laboratory of Hygiene at Netley under the late Dr. Parkes, and has also worked there under Dr. De Chaumont. In this volume he has discussed at some length the principal conditions likely to affect the health of animals, and the measures necessary to maintain them in an efficient state. The chapters on stable construction, ventilation, food, and the eradication of epizootic diseases appear especially to deserve careful study. The chapter on individual hygiene is also very good, but is confined to that of horses alone; it might have been very advantageously extended to other animals. The value of hygienic measures is clearly shown by the greatly reduced death-rate and casting of our army horses in consequence of the attention paid to the sanitary conditions in which they are kept. "It has been publicly recognised that we have practically banished diseases which, before our time, decimated regiments; that we have prolonged the useful life of the horses of the army, and have placed them at the head of all others for freedom from diseases, and general fitness for work." In the French army, which, in this respect, is still behind ours, the adoption of sanitary measures "effected a saving of £90,000 per annum in the purchase of horses alone." There is still much room for improvement in the hygienic conditions of horses employed in civil life, and even more in those of other cattle. We trust that Mr. Smith's book may exercise a beneficial influence, by calling attention to the pecuniary advantages arising from a moderate expenditure in this direction. Another important matter which he discusses, and which seems to require great modification, is animal transport by sea. We strongly recommend the book to all who are interested in horses and other cattle, or who desire to promote their humane treatment. It has the advantage of a copious index.

Lehrbuch der Allgemeinen und Speciellen Pathologischen Anatomie. Von Dr. ERNST ZIEGLER. Zwei Bände. Fünfte Auflage. Erster Band: Allgemeine Pathologische Anatomie und Pathogenese. Zweiter Band: Specielle Pathologische Anatomie. Jena: Gustav Fischer. 1887. (*Text-book of General and Special Pathological Anatomy.* By Dr. ERNST ZIEGLER. Two Vols. Fifth Edition. Vol. I.: General

Pathological Anatomy and Pathogenesis. Vol. II.: Special Pathological Anatomy.)—The fifth edition of a work so widely known as Professor Ziegler's Text-book of Pathological Anatomy needs no introduction to favourable notice; still it must be remarked that, in spite of the rapidity with which one edition has followed on the steps of another, the author has found time and expended much pains to improve and amplify his book. Those who are familiar with Macalister's excellent translation will find in the present edition many improvements. There is not merely a rearrangement of the subjects, so that the work presents now a very systematic character, but the number of illustrations, the vast majority of which are original, has been greatly increased, and considerable additions have been made to the text. Although the work has thus increased in bulk, there have been certain curtailments—e.g., in the sections on the organs of special sense. The first volume deals solely with general pathological anatomy, and is not one quarter the size of the second, which embraces the subject of special pathological anatomy, the whole work containing upwards of 1500 pages (large octavo) and 703 illustrations. In the first volume we find very material additions. Thus the introductory chapter has been rewritten, and now comprises a succinct account of the febrile process. The second chapter is entirely new. It deals with etiology, the introduction of which into a pathological text-book is a welcome sign of the broadening tendencies of modern inquiry. In this chapter are discussed the operation of external agents in causing disease, the inter-relations of morbid processes in the several tissues, the subjects of metastasis and embolism, disposition and immunity, inheritance and malformation; but the detailed discussion of malformations, which originally opened the work, is now relegated to a later place—viz., after tumours have been dealt with. It will be noticed also that the sections treating of specific new growths have been transferred from the chapter on inflammatory processes to that on bacteria. As may have been expected, this last-named chapter has been subjected to thorough revision and extension, so that it forms a complete account of pathogenic bacteria, illustrated by numerous coloured illustrations. The second volume also shows many evidences of careful revision, and covers the whole ground of special pathological anatomy. The only portions of the work which are not by Prof. Ziegler are the sections on the diseases of the organs of vision and hearing, which are contributed by Drs. Haab and Wagenhäuser.

The Journal of Anatomy and Physiology. Conducted by G. M. HUMPHRY, Sir WM. TURNER, and J. MCKENDRICK. Part 3, Vol. XXI. April, 1887.—This is the third part of the first volume of a new series. May we suggest to the editors the great value that would be possessed by a thoroughly good index to the first twenty volumes. Vast stores of knowledge are concealed and are practically lost in these volumes; and all are aware of the authority that attaches to the numerous memoirs they contain, since many of them have been written by the ablest biologists of this country during the last twenty years, the first volume having appeared in 1866. It would not be a very troublesome task to combine in literal order the indices to the second volumes as they have been already published. The present part contains:—1. J. W. Fraser: Memoir on the Action of Infused Beverages on the Peptic and Pancreatic Digestion of the chief Dietetic Proximate Principles. 2. Thomas Shore: Relations of the Mammalia to the Ichthyopsida and Sauropsida. 3. Henry Bewley: On the Changes produced in the Lungs of Sheep by a Parasitic Worm (Strongylus filaria). 4. James Oliver: Menstruation; its Nerve Origin, not a Shedding of Mucous Membrane. 5. W. Arbuthnot Lane: Evidence of Labour from examination of Skeleton. 6. M. Paterson: Morphology of Sacral Plexus in Man. 7. A. Macfadyen: Behaviour of Bacteria in the Digestive Tract. 8. David Hepburn: Double Superior Vena Cava, &c. 9. G. D. Hamilton: Weigert's Hæmatoxylin Copper Stain for Nerve Fibre, &c. 10. W. Hunter: Intra-peritoneal Blood Transfusion and the Fats of Absorbed Blood. 11. Sir W. Turner: Racial Characters of the Human Skeleton. 12. Prof. Humphry: Remarks on the Conditions, Habits, &c., of Centenarians. 13. R. Cory: Effects of Vaccination and subsequent Amputation of Supernumerary Fingers. 14. W. Menzies: Two Cases of Single Kidney. 15. D. Hepburn: Variations in Human Nerve Arrangements. 16. J. Lamont: Nerve-supply of Musculus Sternalis. 17. Abbé's Apochromatic Micro-objectives, &c. A very good number.

Analytical Records.

LANOLINE (LIEBREICHT.)

(MANUFACTURED BY BENNO, JAFFÉ, AND DARMSTAEDTER, BERLIN, FOR BURROUGHS, WELLCOME, AND CO., LONDON.)

THIS extremely interesting substance is prepared from the *suint*, or grease of wool. Crude suint, as is well known, contains potash salts, whereas the purity of this preparation is shown by the fact that it yields only a very small trace of ash. It contains mainly insoluble fatty acids, the soluble acids determined by the ordinary saponification method only amounting to 0·4 per cent. Its specific gravity at 120° F. is 0·911, and its melting point 113° F. (corrected). But its most remarkable property is that of taking up by mere trituration a very large quantity of water. We found no difficulty in incorporating as much as 150 per cent. of water, and it is said that even larger quantities may be introduced. It is sold in two forms, anhydrous and ordinary, the latter containing, according to our analysis, 20·74 per cent. of water. It is this power of mixing with water that suggested its use as an absorbent, for which it seems admirably adapted, as experience shows that the skin which has exuded it can as readily take it up. We regard it as an article of great promise, and shall look with interest for further records of its use.

DISINFECTANT AND DEODORISING CANDLES.

(THE DEE OIL COMPANY, SALTNEY, CHESHIRE.)

These candles are intended for use in the sick room, and generally in places where the air is of doubtful purity. They contain a real antiseptic, which can be separated by boiling in water or by careful sublimation. They burn with a fragrant odour, and seem well adapted for their purpose.

OLEUM DERLINÆ.

(THE DEE OIL COMPANY, SALTNEY, CHESHIRE.)

This is a mineral oil preparation intended for use in ringworm, eczema, scurvy, and other skin diseases. It is strongly fluorescent, has no taste or smell, does not give off vapour at 212° F., leaves no residue after burning, and is not acted on by sodium. Its purity is therefore evident.

SELLERS' HYPNOTIC TINCTURE.

(JOHN SELLERS & CO., FARRINGDON-STREET.)

The manufacturers state that this tincture, of which the dose is from half to one fluid drachm, is compounded of chloral, bromides, hyoscyamus, lupuline, cannabis indicus, and other drugs. Our analysis confirms this account, and we are the more disposed to praise the preparation because no attempt is made to conceal its composition.

WATER FAMINE IN LANCASHIRE.—Notwithstanding the heavy showers which fell a week ago, the inhabitants of Langho, near Blackburn, are suffering from a water famine. All water used has to be taken from Clitheroe by rail in milk cans. This is served out by the station-master, who allows a bucketful to each family. There is not a drop of water in the district except what can be obtained in this way.

New Inventions.

PILLISCHER'S NEW "KOSMOS" MICROSCOPE.

THE annexed woodcut illustrates a new student's histological microscope, recently made and brought out by Mr. Pillischer, of New Bond-street. A well-arranged optical body and stage, with a revolving diaphragm, is supported upon a solid bronze base or foot, which is at once original and most convenient, enabling the worker when using the stand to manipulate with the greatest ease. The fine adjustment is perfectly steady and sensitive, and will admit of the highest immersion objectives being used. The optical parts consist of one eye-piece and two objectives, a 1 in. and ½ in., of excellent defining and penetrating power, giving amplifications from 30 to 380 diameters. In its simplest and cheapest form—viz., the stand, one eye-piece, 1 in. and ½ in. objectives, and a well-made mahogany cabinet with lock, key, and handle—this microscope costs £5; but the stand is so constructed that any additional objectives or apparatus, such as Abbé's or achromatic condenser, polarising and other apparatus may be fitted to it. The maker claims for this instrument both mechanical and optical excellence to a degree which has hitherto not been attempted in cheap microscopes of this class. We can recommend the microscope as a good and cheap one, well suited to students' work.

KANGAROO TENDONS.

To the Editors of THE LANCET.

SIRS,—With your kind permission I would like to draw attention to a few rather important circumstances respecting the selection, treatment, and preparation of kangaroo tendons which are intended to be used surgically. Having read in THE LANCET at different times the opinions of several operators who have used them, I wish now to refer more particularly to the defects pointed out in your reports of the meetings of the Royal Medical and Chirurgical Society and the Clinical Society of London, in THE LANCET, vol. i. 1885, p. 205, and in vol. ii. 1886, p. 819, in which the following remarks occur—viz., that tendon ligatures "had broken on more than one occasion"; that they "were sometimes slippery"; and that the knots tied in them "are apt to slip." My own experience is so directly opposite that I cannot help believing that the behaviour referred to was due to an imperfect condition of the tendons employed, and that they were either unsound or had been too much softened before being used. To ensure satisfactory results all tendons must be examined to ascertain that they are quite sound, because they are frequently injured by a hasty and careless removal from the animal's tail, a task requiring some little time and trouble, but not unfrequently performed by the rough hands of a bushman, who will, if not properly instructed, pull them out by main force, and by this heroic method they are seldom obtained of the proper length and strength, for they either break off short or they are frayed at their edges, or split longitudinally, and I have seen many such which had been sold for surgical purposes. A moment's careful scrutiny of the tendon ligature by the surgeon himself is therefore necessary before trusting to it in the deligation of an important vessel. It should be about eighteen inches in length; if less than fourteen it had better be rejected at once; it should also be of the same calibre, and the same width from end to end. Its surface and edges should be even and without flaw, quite free from frayed, broken, or hanging fibres, and without any splitting or longitudinal separation of its substance. The soundness, or otherwise, is at once apparent by holding the tendon out at length between the eye and the light. Who, may I ask, would employ a silk or a gut ligature in which one or more of the strands were notched or broken? In consequence of its natural wavy and irregularly interlaced structure, a tendon is greatly weakened by a very short longitudinal split in its substance. I have always been careful to point out that a split or damaged tendon would easily break. *Apropos* to splitting, there is an article in Heath's "Surgical Dictionary" on Kangaroo Tendons, which seems to me to be rather misleading, for the writer states that "when fresh the tendons may be split up to any thickness required." *Cui bono?* But with seeming inconsistency, the same writer advises, a few lines further on, the rejection of those tendons which show any "longitudinal split." Another surgeon mentions a case, reported in one of the numbers of THE LANCET already referred to, in which he used a "slightly flattened" tendon. If this flattening was made by pressure, as one must presume it was, it is apparent that the process materially weakened the fibre of the ligature. As regards the slippery surface that has sometimes been spoken of in London, it also is probably caused by the preceding treatment to which the tendons have been subjected, and I fear that I may possibly be responsible, though unwittingly so, for some of this treatment. At all events, I desire to point out an error which occurs in a short paper of mine in the Medico-Chirurgical Transactions, in which it is stated (vol. lxv., p. 73) that tendons can be preserved "in 5 per cent. carbolic oil." This should have been 1 to 5 carbolic oil. I regret that this mistake escaped unnoticed by me till a few weeks ago, when some tendons that had been preserved in 5 per cent. carbolic oil were brought to me for examination by a friend, who had followed the directions in the paper just referred to. They were decidedly soft, rather slippery, and altogether different from other tendons which had been preserved in 1 to 5 carbolic oil. This may account for the "slippery nature of the material used," which is complained of in one of the reports. My recommendations, however, when first introducing tendon ligatures—as recorded in the *Australian Medical Journal*, Dec., 1877, and on all other occasions, with the one unfortunate exception—have been that they should be preserved in carbolic oil, precisely in the manner directed by Professor Lister in the preparation of catgut ligatures. And in this way all those I have ever used, or seen used, have been preserved. And there can be no doubt that they improve and become denser by keeping for many months or years in this solution; in fact, they become rather too hard for immediate use, without some previous softening. From recent experiments it appears that the best way of removing the hardness is by immersion for a few minutes (say at the commencement of the operation) in a warm solution of carbolic acid and water, 1 to 40, at a temperature of about 120°, which makes them pliable, yet not slippery. This is better than soaking for a long time in a cold watery solution; such a soaking for twenty-four hours is apt to make them sodden.

A final word about the length, if not trespassing too far on your valuable space. It is hardly possible to tie a tight and efficient knot on a vessel with a short ligature, especially when the operator's hands are wet; therefore it is all the more important to insist that the tendons should be over fourteen inches long, in order to afford a good firm hold, besides the fact that to obtain a tendon at its full length necessitates care in its removal from the tail.

I am, Sirs, yours obediently,

T. M. GIRDLESTONE, F.R.C.S. Eng.,
Surg. and Lect. on Clin. Surg. Melb. Hosp., and
Melbourne, June 27th, 1887. Lect. Surg. Melb. Univ.

THE LANCET.

LONDON: SATURDAY, AUGUST 27, 1887.

THE Bradshawe Lectures, which are delivered annually at the two Royal Colleges, have been productive of much that is valuable and interesting. The date at which the delivery is fixed at the College of Physicians differs from that of the College of Surgeons; but although strictly in accordance with the foundation, it is rather an unfortunate time for the gathering of a large audience. There is another difference besides the time of delivery which has become marked between the customs of the two Colleges. At the College of Surgeons the office of lecturer has been hitherto bestowed upon one of the senior Fellows or past presidents; at the College of Physicians the president has selected alternately a Fellow from the provinces and the metropolis, and has sought rather to encourage the junior Fellows by inviting them to undertake the office. Hence, we look to the occasion at the one institution for the ripened wisdom of experience and age, and at the other for the ardent investigations of workers in the field of medicine, in their endeavours to open up new paths and proffer new explanations of phenomena. This is strikingly the case with the lecture delivered last week before the College of Physicians. It was the product of a young physician who has brought to bear upon the explanation of a not uncommon pathological condition facts and experiments which illustrate well the bearings of the science of physiology upon practical medicine. Dr. SAMUEL WEST has already identified his name with the subject of pneumothorax, and in his lecture he succeeded in demonstrating how many and varied are the problems involved in this apparently simple condition, besides introducing to notice matter which is wholly new and highly suggestive. It may therefore be well to note some of the more salient features of the lecture, which appeared in full in our columns last week.

Limiting in the main his remarks to the occurrence of pneumothorax in the apparently healthy, Dr. WEST at first alluded to the experiments and observations of Dr. CHAMPNEYS, the correctness of which he has himself verified. From these observations it has been clearly shown that although the lung may be ruptured by violent expiratory efforts, the air rarely finds its way into the pleural cavity, but, burrowing beneath the pleura, enters the mediastinal, and thence the subcutaneous tissues. Subcutaneous emphysema is then more readily produced than pneumothorax; there is less resistance to the passage of air into the lax connective tissue than between the pleural layers, so that, as Dr. WEST subsequently stated, the occurrence of such emphysema is almost a safeguard against the graver issue of pneumothorax; for it was experimentally found that a force equivalent to eight or nine inches of mercury, far and away above the greatest expiratory effort, was needed to produce pneumothorax in the healthy lung. It follows, then, that in every case where this condition arises—as it mostly does in the "apparently healthy"—without any unusual strain or effort, the lung must be markedly weak. This inference is strictly in accord with pathological fact. Pneumothorax may occur in the very earliest as in the latest stages of phthisis, before the appearance of any physical signs, just as at the close of a well-marked case with numerous cavities. All that is needed is a minute sub-pleural softening focus, which may involve the pleura and admit air into its cavity. Nor is recovery from such a form of pneumothorax impossible; indeed, from the cases recorded by Dr. JOHNSON, Dr. WEST, and others of late, it not infrequently ends in this way. But, at any rate, no one can say now that pneumothorax can arise spontaneously in an individual whose lungs are perfectly sound.

A second highly interesting point in the history of pneumothorax was dealt with by Dr. WEST, whose experiments have decidedly thrown a new light upon one of the paradoxes of pathology. That the pleura may be laid open by an external wound, or the lung injured from within, as by rib fracture, without air being admitted into the pleural sac, has long been a puzzle to clinical observers. No explanation hitherto afforded can be deemed satisfactory. Pleural adhesions, although common, are by no means so widespread in area or so universal as to explain the fact, and the alternative hypothesis of a rapid reabsorption of the escaped air is even less tenable. When air gains free entrance into the pleural sac the lung collapses by virtue of its own elasticity, which is reckoned as equivalent to 7 mm. of mercury, Dr. WEST has shown that the cohesive force which keeps two layers of a healthy serous membrane in contact is much greater than this; and we commend to notice the ingenious and accurate experiments whereby he proved that, even when an aperture is made in the outer layer of membrane, no air will find its way between the layers unless a force equivalent to at least 12·5 mm. of mercury be employed to separate the two layers. The "law of cohesion" between two closely applied surfaces of the physical condition of serous membrane is one of considerable importance in animal physics, and is, as Dr. WEST showed, equally applicable to the peritoneum and to joint surfaces as it is to the lungs. The outcome of this doctrine is, then, that pneumothorax cannot be initiated without the intervention of a degree of force sufficient to overcome this cohesion, unless the pleura be already altered from the healthy state, to which, of course, this statement only applies. That force is supplied by expiration, and once it has effected the detachment of the two pleural layers, the elasticity of the lung completes the process, until the whole sac is filled with air.

The third point which received ample illustration at the hands of the Bradshawe lecturer was that of intra-pleural pressure in pneumothorax. It was shown that, whereas the expiratory pressure is always positive, and sometimes raised to a considerable degree, inspiratory pressure cannot exceed that of the atmosphere unless some other condition, as fluid effusion, is present. The value of this observation is obvious; and the interesting question of respiratory oscillation, or the difference between the inspiratory and expiratory pressures as influenced by the condition of the opening into the lung and the presence of fluid, received abundant illustration. The clinical value of the manometer could not be better exemplified; and it would

add largely to the value of our records were it customary to employ this instrument in connexion with the aspirator in every case of thoracentesis. The results of these variations in pressure are seen in the displacement of the heart, which was shown by Dr. WEST to be a bodily displacement, and not a merely rotatory movement. For these and further facts the lecture itself must be referred to. But there is still another question that was dwelt on by Dr. WEST which merits a few words; that is, the mechanism whereby in cases of recovery from pneumothorax the lung re-expands. Fluid may take the place of the air, and the recovery be effected by the natural forces of absorption alone or aided by paracentesis, the respiratory movements assisting powerfully to this end. It is different in those somewhat rare cases where no fluid effusion occurs, for then the absorption of the air from the pleural sac must take place with a power strong enough to overcome the pulmonary elasticity. There is no doubt of the interchange of gases contained in the pleural cavity; but it is at present an insoluble problem how all the residual gas is got rid of. Dr. WEST proposed an explanation, but admitted that it would hardly be considered final. It shows, however, that he is fully alive to all the difficulties of the question, and it forms not the least interesting topic in a lecture which was throughout lucid and instructive.

THE cry is not unfrequently raised that practice by quacks should be prohibited by law. Those who think that stringent legislative interference would prove successful would do well to listen to what is being said in countries where quackery is, nominally at least, illegal. Dr. AUGAGNEUR has recently contributed some articles on Freedom in the Practice of Medicine to a French provincial medical journal which he edits, in which he first reviews shortly the history of French medical legislation and its consequences, and then proposes a change in the direction of perfect freedom.

Under the old monarchy, medical practice was a monopoly enjoyed by bodies such as the Paris Faculty and the College of Surgeons of St. Côme, which were tolerably jealous of their privileges; but in districts far removed from Paris, sorcerers, bone-setters, &c., had it pretty much their own way. The pride and exclusiveness of the Paris Faculty received a severe but not altogether an undeserved check at the revolution by the suppression of all privileges hitherto enjoyed by medical bodies, and the establishment of entire freedom in the practice of medicine. In consequence of the complaints made by medical men restrictions were after a time again imposed, the chief argument in favour of this, which is attributed to FOURCROY, being that it was necessary to protect people who were too ignorant to discriminate between an educated medical man and a boastful charlatan. "The intention," says Dr. AUGAGNEUR, "was excellent, but look at the result a century after the restrictions were reimposed!—a century, too, which has seen the development of railways and compulsory education." This law is a failure, not because the intelligence of the public generally has rendered it unnecessary, but because it is absolutely inefficient. Quackery is to be found everywhere under all kinds of forms—bone-setters, wizards, clairvoyants, and now, as the latest products of a scientific age, electricians, magnetisers, and hypnotisers, who drive a more prosperous trade than even the charlatans of a more primitive character. The press, the glorious instrument of popular education, disseminates daily the most barefaced falsehoods about quack medicines of all kinds, and the pharmacists who do not abuse their position by selling such articles are unfortunately in a small minority. Again, persons who possess diplomas—midwives, *officiers de santé*, and even Doctors of Medicine—act in collusion with quacks by allowing their names to be advertised in connexion with secret remedies. "Not long since one of these diploma'd medicine vendors, whose advertisements were to be seen on the last page of numbers of newspapers, secured the patronage of a Parisian professor, who defended his doings before the Academy of Medicine." "What is to be done? There are only two methods—legislation of Draconian severity, which public opinion would never stand, or complete freedom." Either the police must proceed against every person who practises without a diploma, and advertisements of medicine vendors must be entirely prohibited in general papers, or complete freedom to practise and advertise must be conceded. In this connexion it must be remembered that many valuable remedies have been discovered by lay persons, and that M. PASTEUR himself is not a medical man. There is another matter, too: the State now is obliged to recognise officially many practitioners whose acquirements are far from what they should be. Examiners do not like to go on rejecting a man *ad infinitum*, and so, after various attempts, men who are by no means really competent are passed, otherwise their means of earning a livelihood would be taken away from them. If practice were free, such men could study for as long or as short a time as suited them, and could begin practice whenever they liked. They would not of course be able to call themselves "Doctor," but would have to content themselves with the designation of "Medecin" (medical practitioner), which would mean nothing more than engineer or photographer does. There would, however, Dr. AUGAGNEUR thinks, be this great advantage about the system of free practice: the degree of Doctor might be reserved for those who were thoroughly competent, which, according to him, is by no means the case under the present *régime*. His plan is to do away with the lower diploma of *officier de santé*; to punish usurpation of the title of Doctor of Medicine by a heavy fine and two months' imprisonment, no extenuating circumstances being recognised; and of course to allow none but Doctors of Medicine to hold public medical appointments or to be called as experts in courts of justice. He would make all persons, whether with or without diplomas, responsible for their treatment; the Minister, acting under the advice of a medical committee, to prosecute in cases of malpraxis, without waiting for a complaint to be made by the patient. Under a few years of this system Dr. AUGAGNEUR prophecies that quackery would have nearly disappeared, and with it the *officiers de santé* and the majority of incompetent Doctors of Medicine. This would appear to be a very sanguine view of the result of legislation. As far as the freedom of practice goes, we have it in this country in all its glory, and actions for malpraxis are probably quite as common as they would be if they were entrusted to a Government department. We have, besides, a law against

assuming medical titles, which, though sometimes evaded, is by no means a dead letter; yet quackery is rife, and is apparently not at all on the decrease. We have also—what the French have not—the unqualified assistant question; and although recent events may possibly have the effect of checking some of the more gross abuses connected with the employment of unqualified men, it is highly improbable that any legislation which the public would tolerate would put an entire stop to unqualified practice. Even the Germans and Russians, who are accustomed to more of the iron-handed style of legislation than we are, are unable to put down quackery. Things are no better in America, where medical legislation is very lax, so that it is to be feared that Dr. AUGAGNEUR'S panacea would prove as ineffectual as other systems.

THE rapid progress of chemistry, particularly of that part of it known as "organic chemistry," outstrips all those who either have no time or no inclination for hard scientific reading. Every few years our text-books are transmogrified; old and familiar names give place to new; and as for the formulæ, many of us are compelled with reluctance to give them up in despair. Omitting the changes due to the revision of atomic weights, which are definite and have become familiar to most, we are confronted with an almost interminable series of variations in the formulæ for well-known bodies, and are tempted to ask, with some vexation, whether acetic acid is $C_2H_4O_2$, or $HC_2H_3O_2$, or $H_2O.C_4H_6O_3$, or C_2H_3OOH, or $CH_3.COOH$. Is there any meaning in such changes? Do they record real discoveries of facts, or merely the latest fads of theorists? Could chemists do without them? Would it be simpler or more complex if they were discarded? Are they of practical use in interpreting present facts and guiding new research? And, above all, have they any appearance of finality about them, or must we look for an endless series of analogous changes? Answers to these and to similar questions cannot be supplied in a few lines or even a few pages, but an interesting and satisfactory attempt is made in a recent number of our contemporary, *Nature*. The author of the article entitled Constitutional Formulæ and the Progress of Organic Chemistry (*Nature*, Aug. 18th, 1887) points out in a very clear manner how the atomic hypothesis led to symbols, formulæ, and equations, and how the later discoveries of isomerism and the physical phenomena incidental to chemical composition and chemical change have led to new hypotheses. Of the value of these hypotheses there can be no doubt, for they have fulfilled in a remarkable manner the great condition of all good working theories, in that they have not only proved equal to the explanation of many, if not all, of the problems which research has presented, but have endowed the experimenter with something of the prophetic skill which is required for new discoveries. The so-called constitutional formulæ of modern chemistry show, at any rate, one possible mode in which the ultimate atoms may be grouped in each individual compound, and suggest not only other groupings of those atoms that would belong to isomeric varieties of the same substance, but also probable modes of synthesis and of decomposition. The defects of the formulæ to which we are at present restricted are self-evident, and are universally admitted. They represent atoms at rest and on a plane, both of which conditions are most improbable. As we know more of molecular and atomic dynamics, we may learn to modify or even to change them, but as far as they go, and in the present state of our knowledge, they are invaluable, and could not be discarded without grave injury to scientific progress. To conclude, in the words of the article which has led to these remarks, "The constitutional formula is not an ultimate expression of the whole truth as regards molecular structure. But it is certainly a very convenient symbolical expression of certain aspects of the truth. We all hope that it may one day be superseded by some higher and more complete generalisation; but it will be absorbed and assimilated, not rejected and contradicted, by that generalisation. *Non omnis morietur.*"

PERHAPS the diseases of the various parts of the nervous system which may come on during the course of the different "fevers" is one of those subjects on which the present and immediate future are destined to throw considerable light. The discoveries of recent years have been made not only in the clinical, but also in the anatomical sphere, and some observers have happily combined the clinical with the anatomical methods, much to the advancement of true pathological knowledge. The ball may be said to have been re-started by the remarkable discovery of PITRES and VAILLARD that phthisis might be attended with peripheral neuritis, which would explain the presence of certain marked nervous symptoms; and perhaps still more by the circumstance that the same observers detected a similar affection of the peripheral nerves in typhoid fever. These newly recognised facts have widened very considerably the horizon of our clinical and pathological knowledge. The facts, however, that alcohol is a cause of phthisis, and that alcohol is at times freely given in typhoid fever, should be remembered, since alcohol is a proven cause of peripheral neuritis. We now perceive that various fevers may give rise to nervous symptoms and lesions by acting either on the brain, spinal cord, or nerves, and that their deleterious action on these structures may partake of the nature of almost any known anatomical lesion.

Let us examine for a moment the various kinds of symptoms and lesions that have been described as occurring during the course of continued fever. Many observers have noted alterations in the spinal and muscular functions, but readers of THE LANCET will have been made acquainted with their remarkable prevalence by the contributions to our columns last year and this by Dr. ANGEL MONEY, who affords support to the suggestion made by Dr. HUGHLINGS JACKSON that the knee jerk may be found of some utility in the differential diagnosis of typhoid fever and meningitis. For many years past it has been known that various groups of muscles either in the arm or leg may be paralysed during typhoid fever, and even the cranial motor nerves have been known to become diseased—indeed actual signs of neuritis have been observed after death; but still the recent investigations of PITRES and VAILLARD have shown that a neuritis may involve several peripheral nerves without there being such gross changes as have hitherto gone to establish the existence of neuritis. The suggestion has been made that any fever, if sufficiently long continued, may set up peripheral neuritis; and the facts which have

been ascertained would appear to give some support to the theory. Of other paralyses that have been observed in or after typhoid fever mention may be made of laryngeal paralysis and palsy of the soft palate, which have also been complicated by paralysis of the act of accommodation for near vision, thereby suggesting the well-known paralysis which follows diphtheria. Further careful observation will be necessary before these rare palsies after typhoid fever can be said to be of an altogether satisfactorily proved occurrence. The white matter and the grey matter of the cord have been known to be the seat of lesions during and after typhoid fever, and with all the symptoms corresponding thereto and fully explicable thereby. Many years ago, in 1861, LEUDET described a case of typhoid fever in which the legs became first paralysed towards the end of the third week of the malady, and afterwards the paralysis spread upwards till the arms and chest became involved, and the patient succumbed from asphyxia within a week of the development of the first paralytic symptoms. Spasmodic and atrophic forms of spinal paralysis have also been observed, and lesions of corresponding parts of the gray matter and white columns have been discovered at necropsies, sometimes made at long intervals from the onset of the paralysis. Although the disease was measles, still the fact may be cited as of great interest and of recent discovery, for Dr. THOMAS BARLOW found evidence of hæmorrhagic myelitis in the spinal cord, and this developed at the same time that the rash came out in the skin and the bronchial tubes were the seat of acute catarrh; and Dr. BARLOW suggested that the spinal cord might be regarded as being specially involved with a sort of measles-rash in his case. Although the occurrence of such marked lesions in the cord is unusual, still we must admit the possibility of a slighter vascular disturbance of the cord as a more general concomitant of severe measles. If we inquire what effect typhoid fever may have on the brain, we shall perceive that the cerebral lesions hitherto observed have been neither few nor limited. Perturbations of mind, disorders of memory, melancholia, general paralysis, hemiplegia, and aphasia, have been often witnessed, but the difficulty is to know to what precise lesion these effects are to be attributed in the different cases. Many theories suggest themselves, but the facts on which they can be based are few in number, and not of frequent attestation. Mere prolonged pyrexia or mere toxæmia may conceivably spoil the protoplasm of the nervous centres; or these processes may damage the texture of the vessels which supply the nervous tissues. Again, as POPOFF has shown, aggregations of leucocytes and colonies of micrococci may collect in scattered foci about the cortex of the brain, and perhaps in other parts of the central nervous system, in acute fevers; or, as Dr. CHARLTON BASTIAN discovered some time ago, minute embolisms or thromboses of capillary vessels may be the cause of some of the nervous symptoms and lesions in typhoid states. Besides minute changes, such gross pathological occurrences as thrombosis and embolism of large vessels, together with actual formation of aneurysms and hæmorrhages, have been chronicled as the cause of equally marked symptoms occurring actually during or soon after the continued "fever."

Annotations.

"Ne quid nimis."

SCARLET FEVER IN LONDON.

THE increase of scarlet fever, upon which we commented in our issue of last week, still continues, and the most recent return shows that there are 724 persons suffering from this disease in the hospitals of the Metropolitan Asylums Board. No one part of the metropolis is specially invaded, but the disease is scattered over the whole area, and is therefore in all probability due to personal contagion. London suffers from scarlet fever in epidemic proportions every few years, and it may be assumed that its prevalence is in great part dependent upon the accumulation of susceptible persons who have grown up since the previous epidemic. Thus, while the annual average number of deaths in London in the years 1876-85 is 2140, during the years 1884-86 the number of deaths has been respectively 1430, 722, and 688, and the numbers have not exceeded 2114 since the year 1880. The deaths undoubtedly bear some proportion to the number of cases, and hence there must be many children in London who have, until the present epidemic, escaped this malady. Of 91 persons admitted into the hospitals of the Metropolitan Asylums Board during the week ending August 19th, as many as 77 were under ten years of age, and 38 under five years of age. When consideration is had for the fact that there is a tendency to keep very young children at home, these figures teach an important lesson, and show that the present epidemic is in great part dependent upon the immunity enjoyed by young children in preceding years. But apart from this circumstance, there are other conditions, not yet understood, which influence the dissemination of scarlet fever. Every health officer knows that there are years when children suffering from the disease can be treated at home with much less risk to other members of their families than during other years, and this difference in the behaviour of scarlet fever deserves further investigation. We have now, fortunately, a department of the State which concerns itself with inquiry into the causes of disease, and we would suggest that it might usefully employ in the examination of the conditions to which we have referred those health officers who have special aptitude for detailed work of this nature.

A SWEDISH SURGEON ON EXTIRPATION OF THE FALLOPIAN TUBES.

DR. F. WESTERMARK of Stockholm, who has now performed extirpation of the Fallopian tube ten times, contributes a paper on the subject in the report of the Sabbatsberg Hospital. After dealing with the history he goes on to discuss the indications for the operation. First of all, as to tubal pregnancy, the best period for operating is before rupture has occurred; Veit having operated eight times, and Gottschalk twice, with entire success, in this stage. As a rule, however, women seldom come under observation till after rupture has taken place. When this has occurred, he considers the operation indicated if the internal hæmorrhage and the collapse produced are not sufficiently severe to place the patient from the first *in extremis*. Other methods which have been suggested are, he believes, uncertain, and even more dangerous than extirpation. Of thirty of these cases with which he is acquainted, a fatal result only occurred in two. Respecting hydro- and pyo-salpingitis, he points out that a very characteristic pain occurs in the pelvis, which is always more marked a little before each menstrual period, and which sometimes becomes spasmodic in character and almost unbearable in amount. These pains, he thinks, are due to spasmodic contractions

of the tubes caused by increased turgescence of the tubal tumour. Continuous pain, on the other hand, is, he believes, a sign of perimetritis, which is nearly always present, and which he by no means considers an indication for the operation; he even seeks to subdue the perimetritis before operating. In uncomplicated cases of salpingitis the diagnosis is simple, but where ovarian abscess or cysts coexist with it the diagnosis is sometimes impossible without a preliminary laparotomy. In cases where the diagnosis is rendered difficult by perimetritic effusion of large amount, he recommends a long course of absorbent treatment before operating. The chronic forms of salpingitis ought invariably to be operated on, and likewise some of the acute forms—e.g., gonorrhœal. He had a case of this kind which he operated on about a month after its commencement, and was able to trace in the preparation distinct groups of gonococcus. In the catarrhal form he seems less disposed to recommend early operation. Of nine operations for salpingitis only one proved fatal; and here the disease was tubercular, and was followed by tubercular peritonitis. From statistics of other operators he deduces that the mortality from 498 extirpations has been forty-one, or 8·2 per cent. Regarding the question of operating for new growths, Dr. Westermark agrees with the views of other surgeons who have written on the subject.

FARTHING DINNERS FOR SCHOOL CHILDREN.

SOME months ago we noticed with cordial approval the efforts which had been made in Birmingham to supply cheap and nutritious dinners to poor children attending elementary schools. Some further papers descriptive of the movement are now in our hands, and we commend them to all who are interested in philanthropic work, and, indeed, to all who have the good of their country at heart. The new papers are a second edition, revised and enlarged, of a pamphlet by Mr. George Herbert Sargant of Birmingham, entitled "Farthing Dinners," a report for the season 1886–87 on Birmingham halfpenny and farthing dinners, and a report on two conferences held in Manchester under the auspices of the Vegetarian Society in the spring of this year, on the economy of our food supply, and upon cheap dinners for school children. Mr. Sargant, to whom the success of the Birmingham experiment is in a great measure due, has done a further and more general service in publishing his experience in a somewhat extended form. His pamphlet can now be obtained from Messrs. Simpkin, Marshall, and Co., for twopence. In it he has given minute directions for the selection of suitable food material, cooking apparatus, and kitchen and table appliances, and tables of the price of each. For the daily supply of 400 or 500 children the initial expenses for cooking and serving, including tables, linen, &c., is stated to be £25 13*s*. This is the maximum, and in many cases it may be greatly reduced. In the earlier days of cheap dinners it was thought a triumph to supply a meal sufficient for an average child for a penny. It was then successfully reduced to a halfpenny; but, alas! even this was too expensive a luxury for many of the poor little things. So Mr. Sargant set to work again, and by dint of close study and careful purchase succeeded in preparing wholesome and nutritious dinners, the absolute cost of which was only one farthing each. It seems incredible, but we are assured that this is the actual cost of the rations daily issued to the poorest children in Birmingham. No less than 12,000 dinners a week are now sold or given away in the town, and although the dinners are scanty for strong and well-fed children, they are said to be ample for the ill-fed and sickly, and it is for the latter that the boon is chiefly needed. The dinner consists of half a pint of soup and a slice of bread and jam, and the main reason of its amazing cheapness is that lentils, split peas, Indian meal and barley, with carrots and onions, are used, to the exclusion of meat. Of the nutritive value of such food there can be no doubt, and as to the quantity, we presume that two meals may be had for a halfpenny. Mr. Sargant gives a most encouraging account of the effect of the simple meal upon the intellectual progress as well as on the health of the children; but for that, as well as for an able statement of the arguments for and against free dinners for Board School children, we must refer our readers to the interesting pages of his pamphlet.

A RESERVOIR OF THAMES WATER NEAR A HOSPITAL.

THAMES WATER in an unfiltered state may, perhaps, be good enough for forge work and for extinguishing fires, but when a large volume of it is pumped into a reservoir situated directly under the windows of a large hospital and allowed to lie stagnant for some time there at this season of the year, the danger to the inmates is considerable. These remarks are prompted by the horrible stench which has been emanating for some time past from the circular reservoir at the top of Woolwich Common, close to the Herbert Hospital. This reservoir (which, it may be remarked, though pretty carefully railed round, is a somewhat favourite spot for suicides) is connected with the Woolwich Dockyard, now no longer used for its original purpose, but employed as a store of warlike material. The reservoir is filled with Thames water, which at Woolwich is never particularly savoury, and at this season of the year is frequently very offensive. The dockyard and the residential quarters in it are supplied with wholesome water by the Kent Waterworks Company from deep wells at Deptford, Orpington, and St. Mary Cray; but for certain purposes of a manufacturing nature, and as a reserve in case of fire, Thames water is laid on from the old reservoir, which is on high ground.

TRAUMATIC HEMI-EPILEPSY CURED BY OPERATION.

DR. HOUZÉ, physician to the St. Jean Hospital in Brussels, gives in *La Clinique* an account of a case of hemi-epilepsy due to a blow from a quoit on the left parietal bone, where trephining was performed with ultimate success. The patient was admitted into the medical wards in February, 1886, having then suffered for three years from frequent and violent fits, which always commenced on the right side of the body, and then passed over to affect the left side. There was, besides, motor aphasia of articulation and ataxic dysphagia, due to spasm of the tongue and hemiparesis; also fibrillar contractions, movements of extension and flexion, and ascending and descending auras. These phenomena had first shown themselves in the leg then in the arm, and finally in the neighbourhood of the facial and hypoglossal nerves. By means of a seton applied to the nape of the neck and very large doses of iodide of potassium, the aphasia, agraphia, and the hemispasm of the tongue, together with the brachio-facial twitchings, completely disappeared. From September, 1886, to January 25th, 1887, there were only four fits, the twitchings in the intervals being confined to the right leg. It was then determined to give the patient the benefit of an operation, and he was transferred into the surgical wards, where M. Thiriar trephined above the situation of the fissure of Rolando. After the second attempt a splinter of bone was discovered adhering to the surface of the endocranium, and the dura mater was observed to be peculiarly white at that spot owing probably to a proliferation of connective tissue due to irritation of the splinter. The wound healed perfectly. From Jan. 25th, the day of the operation, to Feb. 11th th symptoms had diminished considerably, the vaso-motor

troubles having ceased on the fourth day. From Feb. 15th, however, the symptoms reappeared one after another, and on the 23rd there was an epileptic fit, which commenced, as the former attacks had done, on the right side, and rapidly affected the left. The next few days there were from three to eight attacks per diem. The seton was reapplied and large doses of iodide given. This treatment again produced a great effect, there being no fit from Feb. 28th to May 4th, the other symptoms having also almost disappeared by that date. On June 7th the patient complained of severe pain in the right thigh, and of frontal headache and want of appetite. There was, however, no tenderness over the scalp or the courses of the nerves, but the temperature was raised. The next day there were twitchings of the muscles, and the day following that a herpetiform eruption on the right leg. After that there were no manifestations of the former condition beyond some slight twitchings of the right leg up to July 10th. When the patient left the hospital he still continued to take iodide in the form of the sodium salt. M. Houzé has good cause to congratulate himself on the accuracy of his diagnosis and his correct localisation of the source of irritation.

"OVERWORK" IN THE COMMONS.

THE conditions of service in the House of Commons are rapidly becoming too hard for any but the most robust of men. Unless a change be quickly inaugurated, there will be no hope of retaining in the public service of the country those busy men who are, by habit and experience, best qualified to make the laws in the administration of which, as magistrates, lawyers, or men of commerce, they have so large an interest. Country gentlemen, barristers, manufacturers, and merchants cannot possibly labour both day and night without respite, even for the good of the commonwealth. What makes the exhausting character of work in the lower House of Parliament especially provoking is its utter needlessness. It is purely wasteful, not merely of strength but of time, to protract the sittings of the Commons beyond reasonable hours. As a matter of fact, if the wretched system of "talkee talkee" were not supported by both parties there would be no occasion to sit an hour after midnight. Eight hours four days each week for six months in the year would amply suffice. Making the most liberal allowance for the advance of intelligence and the destructive effects of progress, it cannot be that our statutes and laws generally are so quickly rendered obsolete that the large amount of time legitimately available for legislative purposes, without turning the whole of the night into day, is inadequate. We cannot help thinking that a great awakening and reconstructive change in our method must be in the near future, and will be hastened by the discovery that many valued lives are being ruthlessly worn out by the worry and work which the present manner of legislating involves.

THE PETRIFACTION OF ANIMAL BODIES.

A WELL-KNOWN Padua chemist and physician, Dr. G. B. Massedaglia, who died more than forty years ago, discovered a method of petrifying animal bodies, and gave the University museum several specimens of his work. This method he kept secret, but he wrote it all out and left the directions in a sealed packet to his legitimate heirs by will. These legitimate heirs, however, were not to be found; and, in spite of every effort to discover them, they remained until recently unknown, and the sealed packet remained therefore unopened. Lately, however, they have been found, and have been besieged by applications for the secret, large sums being offered to them for it. They have, however, it seems, decided not to part with it—at present at least.

THE CARE OF PAUPER CHILDREN.

PUBLIC attention has recently been directed to the care of poor children who are removed from the charge of their parents by the Boards of Guardians, and much evidence has been forthcoming that constant attention must be given by the Local Government Board to ensure that careless administration shall not inflict injury upon them. Within a few weeks the Central Board has had to make inquiry into allegations of neglect of children boarded out by the St. Pancras guardians, of cruelty to the children of the Holborn Union in the schools at Mitcham, and of accusations of inhuman treatment of children suffering from ophthalmia in the schools at Norwood belonging to the Lambeth Union. The first was shown to be but too well founded, and some effort was made to reflect on a system which undoubtedly confers benefits on many young children. The chief fault of our Poor-law system is that the young brought up in large institutions fail to develop any individuality or to become fitted for future occupation in the life that is before them, or in the large world in which they must subsequently earn their livelihood. To some extent this difficulty has been met by placing these children in the families of poor persons, where they are subject to, at any rate, some of the conditions with which they will be surrounded in their after life. The gain by this method of treatment has been sufficiently distinct, but it is obvious much local supervision is required to ensure that they are maintained under circumstances which are advantageous to them personally; a break-down in one locality must not be regarded as a reason for condemning the whole system, but it points to the need for a better supervision than has heretofore existed. Concerning the cruelty to children at Mitcham, this has been shown to exist through the misconduct of officers of the local authority, and the Local Government Board have acted wisely in insisting upon the removal from office of those who were chiefly to blame. The accusations of improper treatment of children at Norwood appear to have arisen from a want of understanding on the part of some members of the Board of Guardians that the methods usually adopted for the cure of granular lids were not more severe than the nature of the cases warranted. Dr. Bridges, who, on behalf of the Local Government Board, investigated the matter, was able to assure the guardians that this malady would yield only to the treatment which had been carried out, and his opinion will be supported by all who have experience of this disease. There appears to have been some exaggeration as to the sufferings of the children, but it may be assumed that much discomfort would be experienced, and that those who had no knowledge of the benefits of the treatment might take exception to its adoption; but the guardians will doubtless be satisfied now that a full explanation has been received from so trustworthy a source as Dr. Bridges.

"MASSAGE AND ELECTRICAL TREATMENT."

WE have received from medical men numerous circulars forwarded to them by a Limited Company, with many indications that in their opinion electricity is not to be used in this wholesale fashion in medicine. Accompanying the circular is a lithographed letter from Mr. J. F. Leeson, L.R.C.P. Lond. and L.R.C.S. Ed., who is described in the Company's circular as having had "a long and varied experience in hydro-therapeutics, electricity, massage, and medical rubbing." One would think this specialty enough to credit to any single medical man in a very business-like circular. But it no sooner ends the description of the staff for electrical operations, under Mr. Leeson, than it goes on to say: "Dr. Leeson will also undertake all difficult cases of hernia requiring special attention," and on the

opposite page is a warm eulogium of a certain truss. We have only to mention such advertisements to indicate our disapproval of them and that of the profession. We cannot but regret that a member of the profession should lend his name for use in such business-like circulars. We feel sure that a little reflection will satisfy him that this is neither the way to commend electricity to the profession nor to lead to the acquisition of a knowledge of its refined use in fit cases, which Mr. Leeson will admit to be essential.

THE CAUSE OF INFANTILE DIARRHŒA.

THERE is no problem in public sanitation or in pathology more interesting than the radical and essential cause of infantile diarrhœa. The mortality from this disease is very great, and the illness occasioned by it, even where not fatal, is still greater. We are glad to have been able to lay before our readers in THE LANCET of last week a suggestive paper by Dr. Tomkins of Leicester, a town scarcely more notorious for its absurd opposition to vaccination than for the prevalence and fatality of infantile diarrhœa. We commend the paper to all medical officers of health and to all physicians who have special opportunities of studying this disease. The drift of Dr. Tomkins's careful investigations is to show, as we are all prepared to learn, that the disease depends on micro-organisms. He does not pretend to have defined or identified them; he is, indeed, excessively careful to show that his observations are still very incomplete. But of course they go far to show that in the organs of those children dying of the disease, especially in the ileum and the kidneys, micro-organisms were obtainable from which abundant and rapid cultivations could be obtained, the nutrient material used being gelatine. The bacilli so obtained, or rather the gelatine in which they were cultivated, developed a markedly alkaline reaction, and even in highly diluted quantities a powerfully offensive odour. It is equally important to note that Dr. Tomkins has been able to obtain the same organisms developing the same odour in the air of Leicester, but not with the same success in all parts of the town. In those parts of the town where the disease most prevails the organisms numbered from 2000 to upwards of 5000 or 6000 per cubic metre, whereas in the healthier and more open districts they varied from 60 or 80 to 800 or 900 per cubic metre. He uses every opportunity to ascertain the pathological lesions in such cases, but has not found them coarse or striking to the naked eye, consisting mainly of inflammatory changes extending through the intestinal canal, and most severe in the ileum. Small ulcers, too, were present in most cases, but they were not localised as in typhoid fever. It is satisfactory to think that Leicester has a health officer so bent on elucidating a problem which he has special opportunities of studying.

THE SABBATSBERG HOSPITAL, STOCKHOLM.

FROM the recently issued report of the work of the Sabbatsberg Hospital, Stockholm, for the year 1886, we learn that 3169 patients were treated there during that period, with a mortality of 257, or 8·11 per cent. On Jan. 1st, 1887, 263 patients remained in hospital. The total cost of each patient per diem was 1*s.* 7*d.*, the food being about 4⅝*d.*, and the medicine about 1¼*d.* Since 1884 the hospital has been illuminated by the electric light, there being 228 incandescent lamps. The cost per lamp per hour was 0·15*d.*, including interest and sinking-fund charges. In order to enable the hospital to be cleaned and thoroughly aired during the summer, a pair of temporary wards have been obtained, made of thin wooden boards, each to accommodate thirteen beds. The cost of these was about £150. The number of major operations was 785 in the surgical, and 125 in the gynæcological department.

THE DIGESTION OF CARBO-HYDRATES.

THE paper of Ellenberger and Hofmeister, recently published in *Biedermann's Centralblatt*, contains a summary of their long-continued researches on this subject. They have experimented upon the horse, and their conclusions are by no means identical with those that have hitherto been received. An abstract, by Mr. J. Fletcher, of this important paper appears in the current number of the Journal of the Chemical Society; and it is so lucid and concise that we reproduce it almost *in extenso*.

"The action of saliva in the process of mastication is shown to be more mechanical than chemical. The quantity of saliva used depends on the dryness and roughness of the food rather than its contents in starch; and the authors think that the chemical activity of saliva owes much to spores, which, floating in the atmosphere, mix with the food and assist in the fermentation process. A digestive action of the mixed food takes place in the stomach when the acidity due to hydrochloric or lactic acid does not exceed 0·03 to 0·04 per cent. The left section of the stomach of the horse does not secrete a gastric juice; this is the function of the right portion. The pure gastic juice of the horse contains lactic, fatty, and amylaceous ferments—the latter in small quantities. Cellulose is not digested in the stomach of the horse, but muscle, fat, gelatine, and flesh generally are easily digested, bone and elastic tissues more slowly. Pepsin operates actively only when acids are present, about 2 per cent. of lactic acid or 0·2 per cent. of hydrochloric acid being necessary. The activity of pepsin does not increase in proportion to its quantity after reaching a certain point, but it rather becomes injurious. The acid which appears first in the digestive process is lactic acid, and later hydrochloric; at the time of greatest activity lactic acid is present in the upper and lower extremities of the digestive tract, hydrochloric acid being found in the intervening part. The digestion of starch in the stomach of the horse lasts for about two hours; that of albuminous matter takes place later, and occupies three or four hours after the eating of the food. The drinking of water immediately after food does not appear to hinder digestion. The secretions of the intestinal canal unite in themselves all the properties of the gastric juice, and can act as a substitute for it, and are particularly energetic in the decomposition of fats. The duration of the digestive process in the horse is long, lasting almost three days. A very active lactic fermentation of sugar takes place in the stomach and intestines, but the authors do not say that all the sugar which is lost in the course of passage is lost in that way; it is more probably reabsorbed."

THE CASE OF LIPSKI.

IN our editorial remarks on the case of Lipski, in our last issue, we drew attention to the difficulties that surrounded the investigation as gleaned from our contemporaries, and from the meagre reports that appeared at the time of the trial. The reader will find, on referring to our annotation, that we were anxious that the evidence in all its bearings should be thoroughly weighed. It was not our purpose to hamper the executive, but to assist, although in an indirect manner, to unravel the tangled skein of facts proved, reported, and reputed. There can be no doubt that Mr. Matthews was in possession of the knowledge of circumstances of the tragedy much more fully and perfectly than most suspected; and now that all is over, we offer to him our tribute of respect and admiration for the exceeding forbearance and energy he displayed in what must have been to him a very trying ordeal. He has tempered justice with mercy, and held the scales until one side kicked the beam. Mr. Matthews is to be congratulated on not having made an ignoble surrender to the mob advocacy of Lipski with which he was beset. The case will long remain a memorable one,

as having been the occasion of a vigorous, long-sustained, and very general plea for clemency to the convict. This we cannot say we altogether regret, for it has shown that several points of medico-legal interest were, on cursory examination, open to other interpretations than the one arrived at by the jury at the Old Bailey. But, quite apart from Lipski's confession, we were content that the Home Secretary, with the concurrence of Mr. Justice Stephen, would arrive at a righteous conclusion. The days of Scroggs and Jeffreys are past; nor is there reason to dread that Home Secretaries will fly in the face of reason and justice, and recklessly give the *fiat* for a fellow creature's death. The most that their responsible duties demand at the hands of the public and our own profession is kindly assistance. Attempts at coercion must end—as they deserve to do—in shame and confusion.

ICHTHYOSIS HYSTRIX NIGRICANS.

IT is not necessary to suppose that the trophic influences of nerves are alone active in the causation of any disease which happens to follow the course of well-known nerves. On the posterior part of each thigh of a child six years old Dr. Butruille observed a long band bounded by parallel lines, and composed of horny growths of a pronounced grey or nearly black colour, and of irregular aspect and hard consistence. There were a few scattered nodules of the same kind; but it was clear that the tract of the disease corresponded with the general direction of the great sciatic nerve. On the right leg the direction of the ichthyotic disease was along the path of the internal popliteal nerve, whilst on the left it followed the course of the external popliteal and anterior tibial nerves as far as its splitting on the dorsal aspect of the foot. A similar distribution was found in the front of the elbow and forearm, as though the fish-like skin was taking its direction from the median nerve. In addition to the overgrowth of the horny layers of the epidermis, there were redness and chronic inflammation of the underlying skin; but with this exception there were no other lesions, and careful examination failed to detect any patches of anæsthesia, analgesia, or hyperæsthesia. The disease was first noticed a few months after birth, in the form of two reddened tracts on the posterior aspect of the thighs, which appeared to have been formed of lines composed of projecting red papules. Such a case, like others that have been recorded hitherto, may be explained by supposing that the disease ran in a general direction with well-known nerves as the result of a mere coincidence, though the association is a curious one; or it is possible that a slight influence coming from the nerves may have decided the direction which the disease took, without in any way supposing that the nervous trophic influence was the chief cause of the ichthyosis.

THE EDUCATION OF VAN CHILDREN.

THE strength of a chain is the strength of its weakest link. If the general truth of this axiom be admitted, then the effective value of that chain which represents our national system of education can hardly be tested at any point so well as in its application to the state of our nomadic population. Mr. George Smith of Coalville has repeatedly roused public opinion to action on behalf of the neglected children of van-dwellers. This perseverance, in spite of the great passive resistance of inertia which belongs to a task at first sight so thankless as the effort to supervise and to train this wandering race by any regular process, is worthy of all praise. He, and many more who favour his disinterested purpose, will certainly view with satisfaction the probable realisation of their hopes as far as that can be assured by the passing of the Bill relating to this subject. This measure, which is framed on the same lines as its predecessor, the Canal Boats Act, besides dealing with the question of education, will also necessarily provide for the registration and inspection of vans and the carrying out of sanitary requirements. Van-dwellers are on the whole a healthy people, thanks to the fact that their lives are passed so much in the open air. Their moving cabins, however, cannot, under the ordinary conditions of domestic life, be regarded as either wholesome or convenient. Only the out-of-door daily life of their occupants counteracts their essential tendency to become at any time nests of contagia acquired in the towns through which they have to pass. In view of this risk and of the prevailing neglect of childhood to which we have alluded, the Bill now under the consideration of Parliament is one which can but appeal to the judgment of everyone who understands that healthy growth of mind and body among the members of every class is the foundation of national prosperity.

SANITARY NEGLIGENCE IN AUSTRIA.

AUSTRIA is credited by *The Times* correspondent at Vienna with taking little interest in sanitary matters, and an amusing story is told in an evening contemporary of a high official who expressed disapproval of a reduced death-rate because it interfered with the public revenue from succession duty. Indeed, it is broadly stated that the upper classes are satisfied with the erection of luxurious buildings, irrespective of their influence upon health. Some difficulty arises through the unwillingness of provincial authorities to carry out the laws enacted by the Imperial Diet, and in so simple a matter as the examination of cattle and meat the local authorities in the Tyrol have attempted to evade their duties, and have appealed against the decision of the Diet on this subject to the Court, which has to decide disputes between the central government and provincial authorities. It is hoped the International Hygienic Congress, which will be held in Vienna next month, will create a warmer interest in public health questions.

THE PREVENTION OF LEPROSY BY SEGREGATION.

IN anticipation of the forthcoming quinquennial report on Leprosy in Norway for 1881-5, the Director of the Norse Leper Department, Dr. Hansen, has forwarded Brigade Surgeon H. V. Carter, M.D., a short preliminary summary of the latest results of the segregation of lepers as carried out by the Norwegian Government, which Dr. Carter, ever keenly alive to the bearing of these facts on India, has communicated to the Bombay Government Gazette (June 30th, 1887). The total number of lepers officially registered, had between the years 1856 and 1880 inclusive, diminished from 2863 to 1582, and of the latter 617 were lodged in the Government Asylum and 965 were living in their own homes. The diminution in the home-dwelling lepers is still going on, so that in 1885 there were only 354 men and 291 women, making 645 in all, or a decrease of 31·24 per cent. in the last five years, or in the course of twenty-nine years a tolerably regular progressive diminution from 2628 to 645, or 75 per cent. Were it not for the circumstance that the asylum population has of late years been reduced, from economic reasons, to about 500, the hope would have been realised that by the year 1885 50 per cent. or one-half of the entire leper community would be isolated. Further good results should follow from the enactment by the Norse Parliament in June, 1885, that the sanitary officials in the country districts be authorised to inform the leper subject that, as a condition of being allowed to dwell at home, he must take satisfactory measures against risking the infection of other people. Amongst other interesting points we notice that Dr. Hansen has probably succeeded in inoculating rabbits with *perfectly fresh* leprous

material, but these experiments require confirmation, He finds the bacilli in the anæsthetic form of disease, and always in wandering cells amidst the epidermic scales surrounding the true leprous ulcer of the nodular form. As bearing on the hereditary nature of leprosy, Dr. Beaven Rake relates an interesting, though, as he admits, in no way conclusive, case in his Report on the Trinidad Leper Asylum for the year 1886. A leper woman was admitted with an apparently healthy child eighteen months old. The child was sent to an orphanage, and about one year later developed leprosy.

THE INFLUENCE OF SANITARY MEASURES.

IN a report on the sanitary state of Hull, Dr. John W. Mason, medical officer of health, points to the influence of the provision of a proper system of sewers in lowering the mortality from certain diseases. During the years 1881–85, the western district of the borough was provided with a continuous instead of an intermittent outfall for sewerage. Phthisis and rheumatism will, it is believed, be materially alleviated by this measure, which permanently lowers the level of the subsoil water, and, by preventing the backing of sewage up subsidiary drains, deals even with the temporary choking of the subsoil with wetness. But as regards the zymotic diseases a change is already in progress which is worth recording, without necessarily attributing the whole of it to this one measure of sanitary progress. In 1881 the zymotic death-rate for the western district of Kingston-upon-Hull was 5·6 per 1000 living; and since that date it has almost steadily diminished, until in 1885 it was only 0·8 per 1000; the general death-rate from all causes meanwhile falling from 2·41 to 18·4. During that period 58,546 feet of drains were laid and 2394 houses connected with the sewers in the district in question.

A FUTURE FOR INDIAN WOMEN.

FOR many years there have not been wanting signs that the mind of the people of India is gradually freeing itself from the restraints which custom, inspired by superstition and social prejudice, has cast about it. The advantages acquired through a co-partnership with ourselves in modern methods of education, in facilities for European travel, and in such practical conveniences as the railway and the telegraph, have not lacked appreciation by many of our Oriental fellow-subjects. Chief amongst these advantages we would place the fundamental benefit conferred by a liberal and carefully directed education. Whatever the progress it has made hitherto, whatever temporary drawbacks or failures may have marked the periods of oscillation natural to advance in that as in any other direction, there can be no reasonable doubt as to the true position of this primary gain in the estimation of all who concern themselves to gauge its possible influence if allowed to act without restraint. It must of necessity in India, as elsewhere, be largely instrumental in reforming many objectionable practices which continue to disfigure personal conduct and social usage. It will undoubtedly do much, for example, to disabuse the native mind of its ingrained attachment to the practice of compulsory betrothal and marriage, with its too frequent sequel of child widowhood. A more cruel or disgraceful folly than this latter could hardly be credited to human nature. The pitiless lot assigned by Indian custom to the child widow was known in this country long before the case of Rukmabai attracted attention. Her case, hard though it is, is not to be compared with the misery of many of these children, who, bereft of friendship, scant of food, deprived of the very decencies of life, drag out an outcast existence, begun almost in infancy, simply because a husband, whom, perhaps, they have never seen, has died before them. Well may we feel a sense of shame that British law has been successfully invoked in justification of a forced marriage arranged in childhood, and of reproach that it is as yet powerless to lighten the sorrows of those poor children. Some effort in this direction, we trust, is not beyond the scope of early legislative reform. In the meantime we cannot but offer our cordial adhesion to a scheme in which it is suggested that an asylum be established for the reception of any of these outcast children who may be permitted to enter it. It has been proposed that there they should be instructed in the duties of attendance on the sick, with a view to their formation into a native nursing staff. A body of young native women thus trained is one of the crying needs of India at this time. Their youth, acquaintance with eastern character and custom, their familiarity with the language of their country, as well as with its diet and the changes of its climate, combine to fit them in a peculiar degree for waiting upon the native population, without reference to our fellow-countrymen, during illness. It is much to be desired by all classes of the people of India that a staff of this kind should be created, and we therefore commend the scheme to their most earnest consideration, as well as to that of the Government.

CHOLERA INTELLIGENCE.

THE returns as to cholera in Italy are not sufficiently definite to enable us to record the total number of cases and deaths. The main incidence of the disease is still upon the island of Sicily. But there is sufficiently accurate information to make it pretty clear that there has been some spread in the mainland. From Resina the news is more encouraging. Suspicious cases are said to have occurred in the provinces of Benevento and Avellino, and in Rome itself; and as regards Naples, it is distinctly asserted that the cases there have been somewhat numerous, and that a considerable number of cases had been admitted into the cholera hospital. A few cases are also reported from the province of Capua. From Sicily itself the news is mainly concerned with two provinces, and during the week ending the 22nd inst. there were in the province of Catania 152 deaths, and in that of Palermo 98 deaths, the outbreak clinging with considerable tenacity to both provinces. In Malta cholera is also maintained, fresh attacks and deaths being recorded every day. During the seven days August 16th to 22nd those newly attacked were 66 in number and the deaths amounted to 39. Owing to the maintained prevalence of cholera in Italy, it is generally apprehended that the Local Government Board are about to renew the order which expired some time back, and which prohibited the importation into this country of rags from that kingdom.

RECENT PHYSICAL DETERMINATIONS.

MANY determinations of the densities of the liquids which so short a time back were only known as permanent gases have been made, but until very lately it has been impossible to compare them on account of the various conditions under which the experiments were made. But very recently Dr. Olszewski, to whose elaborate researches on this subject we are already greatly indebted, has succeeded in overcoming the difficulties of comparison. Taking advantage of the very low temperature produced by the evaporation of liquid ethylene, he succeeded in finding not only the boiling point of the liquefied gases at the normal atmospheric pressure, or very near to it, but also its specific gravity at this pressure. It is of course of particular importance to know the specific gravity at the boiling point, because this fixes the specific volume. Working in this way, Olszewski found for the three important liquids, methane, oxygen, and nitrogen, the following numbers:—Methane: pressure, 736 mm.; boiling point, −164° C.; density, 0·415.

Oxygen: pressure, 742·1 mm.; boiling point, −181·4°; density, 1·124. Nitrogen: pressure, 742·1 mm.; boiling point, −194·4°; density, 0·885. Scarcely inferior to the above research in interest is that of M. Amagat on the influence of pressure on the point of maximum density of water. It is well known that this liquid, remarkable in so many respects, occupies a less volume at 4° C. than at higher or lower temperatures. Hence the expansion of water is irregular, and is unlike that of any other liquid. But we now learn that this peculiarity only exists under ordinary pressures. When the pressure is increased the point of maximum density falls, and at 200 atmospheres it is almost identical with zero; with greater pressure the irregularity of expansion lessens, and at 3000 atmospheres it disappears and water behaves like any other liquid.

THE BRITISH DENTAL ASSOCIATION.

THE annual meeting of the British Dental Association was held last week in the hall of the Faculty of Physicians and Surgeons, Glasgow. The popularity of this institution is growing, as was shown by the statement of the secretary that there was an increased number of members, and there was a goodly number present, although the meeting lacked some well-known names, perhaps owing to the approaching International Congress at Washington. Sir Edwin Saunders, Mr. Smith Turner (the newly-elected President of the Association), Mr. Felix Weiss, Mr. Morton Smale, and many others took part in the proceedings, Mr. Brownlie (Glasgow) being in the chair. Amongst the papers of most general interest was one by Dr. George Cunningham on "The Dental Aspect of Public Health," which followed much the same lines as his and Mr. Fisher's papers last year, to which we referred at length at the time. At the conclusion of his paper the following resolution was agreed to:—

"That this meeting is of opinion (1) that wherever the State provides medical services, dental services should be provided for as an essential part of such medical provision; (2) that, having regard to the great importance of securing competent attention to the teeth of the army and navy, the representative board should consider the advisability of urging the Government to make suitable provisions to that end; and (3) that, considering the compulsory attention to the teeth of school children would be a national gain, the representative board should be empowered to further the matter in any way they deem most fit."

Mr. Lloyd Williams contributed a paper on "Antiseptics in Dental Surgery," which showed that the success in the treatment of dental diseases was largely due to their use, and that they were of great importance in preventing infection, septic or specific, by instruments. Messrs. Walter Campbell and Jas. Cumming also read papers.

EXCESSIVE SECRETION OF GASTRIC JUICE.

DR. WILKENS, of Stockholm, reports a curious case of periodic hyper-secretion of gastric juice, for which no cause or explanation is forthcoming. The patient was a musician of the age of thirty-six, who had lived in different countries, but had never suffered from digestive troubles till three years and a half previously, when he was seized with vomiting and pain in the abdomen, rendering him incapable of eating or drinking while the attack lasted. Similar attacks recurred at intervals of ten or twelve days, lasting from twenty-seven to thirty-five hours, and during them the patient was forced to keep his bed. It was found that he lost from two to three and a half kilogrammes in each attack. In the intervals he suffered from excessive hunger. The vomit presented all the characters of gastric juice. The quantity ejected during each attack was about two pounds and a half; the acidity was 0·12 per cent. The only explanation that Dr. Wilkens can suggest is that this excessive flow depends on some affection of the secretory nerves of the stomach.

THE SURPLUS OF THE WOMEN'S JUBILEE OFFERING.

THERE was wisdom in the selection of the purpose to which the surplus of the Women's Jubilee Offering is to be appropriated. Women's work among the sick is an enterprise of great interest and value, and there is obviously a special fitness in the determination to utilise the money collected from women by women in honour of the Jubilee for the promotion of their benevolent mission. Only one better proposal could have been entertained, and that was the distribution of the fund in aid of the hospitals. This being set aside, possibly under the impression that it would be difficult to allocate the money in that direction effectively without merging it in a fund which it would not so much strengthen as complicate, the decision at which Her Majesty has arrived is one which must at once command the respect and sympathy of her subjects, and especially of those by whom the fund was contributed. That being so, we have only to express the hope that the committee commanded to advise the Queen will do so in a spirit of large-minded sagacity and benevolence worthy of the undertaking in which they are engaged. The nursing of women and girls by women, which we understand to be the particular branch of nursing specially eliciting Her Majesty's interest, is an enterprise that urgently needs help, and the timely assistance afforded by this Royal direction of an almost national fund towards its resources cannot fail to prove of invaluable service, if only it be judiciously applied.

DEATHS OF EMINENT FOREIGN MEDICAL AND SCIENTIFIC MEN.

THE deaths of the following foreign medical and scientific men are announced:—Dr. Hartmann of Naumburg.—Dr. F. J. Hairon, Emeritus Professor in the University of Louvain, formerly President of the Belgian Royal Academy of Medicine, and ex-Director of the Ophthalmic Institute of the Belgian Army.

CUTANEOUS CALCULUS.

CALCULI in the skin are not of common occurrence; at the same time they can hardly be said to possess much importance except as articles of curiosity. One of fair size was recently removed from the skin of the left cheek of a woman, aged sixty-five, by M. Dubois Havenith. It does not seem possible for the stone to have been extracted from the parotid duct, for the disease was mistaken at first for a cancroid, on account of its hardness, and from its being covered with a crust; but there was no enlargement of the corresponding lymphatic glands; and a dental fistula, though a possible explanation, was negatived by careful examination. The stone was irregular, mammillated, weighed about five grains English, had the volume of about a quarter of a cubic centimetre, and was composed of phosphate and oxalate of lime and cholesterin.

SANITATION IN CALCUTTA.

IN the second quarterly report on the health of the town of Calcutta Dr. Simpson discloses a most discreditable state of affairs on the part of those who are responsible for the health interests of the community. Dr. Simpson points out that cholera and typhoid fever are always sufficiently present to call for systematic inspection of premises and their surroundings, but that this work cannot be carried out without

an agency. He then states that the sanitary inspectors who, he had hoped, were the officials by whom the work was to be performed, and who were the nucleus of the sanitary department which he desired to see established in the city, have been dismissed. A real sanitary department in Calcutta has heretofore only existed in name, and now it appears that the sanitary organisation for carrying out inspections, which the most insignificant village in England possesses, is lacking for this great eastern capital, with its terrible death-rate from preventable causes. Had there been no inspection of the special surroundings of the dairy and other premises which led to the discovery that in the case of the *Ardenclutha* those who were attacked with cholera had used the implicated milk, that outbreak, like others in Calcutta, would probably have gone to swell the list of cholera cases due to so-called climatic causes.

THE EPIDEMIC OF ENTERIC FEVER AT MOUNTAIN ASH.

THE severe outbreak of enteric fever at Mountain Ash is said to be extending and to call for unceasing labour on the part of the medical practitioners of the district. Up to the end of last week 140 attacks had occurred, and a period has now arrived when the deaths have commenced, five fatal attacks being recorded. Happily, there is reason to believe that the cause of the extension of the epidemic has been discovered. The outbreak has been almost exclusively confined to a suburb of Mountain Ash known as Miskin, and there it has been found that the choking of a branch sewer had led to a large block in the sewerage system, with the result of forcing back upon the houses the fetid emanations arising from the decomposing sewage. This block has been dealt with; and we may hope that the sanitary circumstances of the place are such that, the initial cause once removed, the further spread of the disease will be checked.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Professor Hertwig will commence his lectures as Second Professor of Anatomy in October. Dr. Schmaltz has been appointed to the second Professorship of Anatomy in the Veterinary School.

Jena.—Dr. F. Semon has qualified as *docent* in Anatomy.

Kiel.—It is reported that a Hygienic Institute and a Professorship of Hygiene are to be established.

THE Vienna Academy of Sciences have elected Dr. Leopold Pfanndler, Professor of Physics at Innsbruck, and Dr. Hubert Seitgeb, Professor of Botany at Gratz, Members; Dr. Karl Toldt, Professor of Anatomy at Vienna, Dr. Sigmund von Wroblewsky, Professor of Physics at Cracow, Dr. Ernest Fleischl von Marxon, Professor of Physiology in Vienna, Home Corresponding Members; and Professor H. E. Beyrich of Berlin, Foreign Corresponding Member.

DR. BILLROTH, our readers will be glad to learn, is steadily regaining health and energy at St. Gilgen, by the pleasant waters of the Wolfgang-See. He hopes to resume his prælections with the reopening of the winter session.

THE Crown Prince of Germany has written to Professor Virchow, announcing a continued improvement, and thanking the renowned pathologist for his investigations into the character of his Imperial Highness's malady.

DR. EDMUND NEUSSER, assistant in Professor Bamberger's Medical Clinic in Vienna, has been appointed Body Physician to Prince Ferdinand of Bulgaria.

THE INTERNATIONAL CONGRESS OF HYGIENE.

VIENNA, famous historically as a seat of Congress, will four weeks hence give hospitality to the greatest numerically as well as philanthropically that has yet assembled within her walls. To the invitations issued by the Organising Committee of the International Congress of Hygiene 1320 affirmative replies have been received. The ordinary members will be numerous enough to suggest the thought that the gathering is as much an ethnographic as a hygienic one. Austria contributes 788, Hungary 182, Germany 85, France 63, Belgium and Italy 24 each, Russia 19, Switzerland 13, England 12, Holland 9, Denmark 8, Roumania 5, North America 5, Spain and Egypt 3 each, South America 2, and Portugal, Bulgaria, and Turkey 1 each. The official representation is also considerable. The common Ministries of Vienna and Buda-Pest depute 15 delegates; the Austrian Government 12, the Hungarian 18, the French 10, the Belgian and Swiss 4 each; the German kingdom, the Bavarian, the Saxon, the Spanish, the Netherlands, and the Egyptian, 2 each; the Italian, the Danish, the Portuguese, and the Norwegian kingdoms, 1 each; Brunswick, Hamburg, Lübeck, Bremen, Roumania, Servia, Persia, and the Argentine Republic also 1 each. The proceedings will relegate to the second line all purely controversial themes of hygienic science, and deal mainly with the thoroughly practical questions of human well-being. Of the twenty books and *brochures* distributed by the Hygienic Section among the members of the Congress, some of them ranging from 100 to 150 pages (the Demographic Section has limited itself to two *brochures* of a few pages each), the subjects dealt with are—Water in all its aspects as a Necessary of Life, including Drainage, and the preservation of Rivers from Pollution; the Utilisation of Human Refuse; the Adulteration of Food; Alcoholism; the Hygiene of Schools, of Seafaring Vessels, and Factories; the erection of Isolation Hospitals; the Protection of Animals from Epidemic Disease by Inoculation; the Etiology and Prophylaxis of Cholera, considered with reference to the recent European visitations—the whole field, in short, of sanitary science in its rigidly practical bearings. The special sections, as well as the general meetings, will assemble in the new university buildings. Within the same walls has been brought together, chiefly through donations, a splendid hygienic and demographic library, which, after the close of the Congress, will become the property partly of the University Institute for Hygiene, partly of the Central Statistical Commission. In connexion with the library there is also a magnificent assortment of plans and graphic representations of what may be called the *matériel* of sanitary and demographic science. The residue of the money subscribed for the Congress will be devoted to a foundation for the promotion of "fabriks-hygiene"—to remain as a monument of the Congress long after its immediate programme has been fulfilled. Demography, we may mention, will be represented at the Congress for the last time on this occasion, its votaries having made special arrangements with the newly organised Statistical Institute for enrolment among its members.

The organising committee, as already remarked, has now issued in printed form the opening address, dealing with the twenty-two subjects set down for discussion. These in themselves constitute a formidable volume, and will enable all the members of the Congress to obtain a complete insight of each subject that is to be debated. The greater number of papers are in German, but these, for the most part, are accompanied with summaries of the main argument written in French. After German, second in number are the discourses in French, and finally there are four papers in English. The first is a report on the Purification and Utilisation of Sewage, by Dr. E. Frankland of New Reigate; the second is a short Report on the Importation of Rags, by Professor Corfield; the third is an account of the Laws relating to Factories and Workshops, by Mr. F. Hayes-Whymper; and the fourth is a paper on International Regulations for preventing Epidemics, by Mr. Shirley F. Murphy. This latter may probably lead to a somewhat stormy debate, as it will be remembered that English ideas on quarantines were left in a minority of two at the last Congress, held three years ago at the Hague. Among the French papers, M. Durand-Claye's summing up of the Shone and Waring

systems of drainage is certain to elicit very warm contradictions. Indeed, we already hear of various speakers who are preparing for the fray; and it must be borne in mind that the debates open on September 26th, so there is not much time to be lost. The excursions and various entertainments all seem to have been organised on a very grand scale and with much method, and the number of adherents to the Congress being unprecedentedly large, everything indicates that this gathering will be more successful than any of its predecessors.

THE FROZEN MEAT SUPPLY.

THE enormous importance of everything which has a bearing upon the food supply of Great Britain gives a very special interest to much of the evidence which was tendered to Mr. Justice Stephen in the course of the long patent trial with which he brought his judicial labours to a close for the legal year now just ended. The subject matter of the patent in question is a refrigerating machine, and interesting as its theory may be as a branch of thermo-dynamics, it would have been little but a piece of laboratory apparatus but for one thing. It has been found applicable to the important purpose of bringing dead meat from America, Australia, and New Zealand in a perfectly sound condition. The trade is at present in its infancy. Ten years ago, although experiments had been made with a view to the importation of cargoes of dead meat, they had all met with very indifferent success. The trouble arose out of a very trifling circumstance. Air contains, as everybody knows, a certain proportion of water vapour. This is, indeed, rather a popular way of putting the fact. If atmospheric air be considered to be strictly a mechanical mixture of oxygen and nitrogen, then of course it does not always and necessarily contain water. But although oxygen and nitrogen are often spoken of as being the principal (and sometimes roughly as the only) ingredients of common air, this is hardly accurate. So long as oxygen and nitrogen were regarded by physicists as "permanent gases," radically different from condensable vapour, like steam or carbonic acid, it was natural to draw a line between the gaseous and vaporous constituents of the atmosphere. But that distinction holds no longer. The brilliant experiments of Andrews, of Cailletet, of Pictet and others have recently shown that the most volatile gases are only vapours at a temperature much above, or a pressure greatly below, saturation point, and in this view it is impossible any longer to deny to the omnipresent and beneficent water vapour which paints our sunsets and fertilises our fields its right to the position of a constituent of prime importance in the terrestrial atmosphere.

But prior to 1877 it almost seemed as if this subtle vapour would for ever shut Great Britain off from the greatest dead-meat markets of the world. The problem was to preserve the meat during a voyage lasting from two to five weeks, and involving, in the case of the southern hemisphere, the crossing of the equator. The solution was obvious—viz., to reduce the temperature of the chamber in which the meat was carried to a point that would arrest putrefaction. Other methods of antiseptic treatment had indeed been tried, but not only without success, they had never even offered a reasonable prospect of success. An antiseptic dressing may do no harm to living flesh, because the vital processes speedily eliminate foreign elements; but once lodged in the substance of dead animal tissue, the antiseptic dressing became itself a ground of offence, and one which no subsequent treatment could wholly or satisfactorily remove. Not so, however, the treatment by what may, perhaps, be termed antiseptic temperature. This demands no counteraction but the subsequent thaw, and leaves no ineradicable mischief behind it. This, then, was, as we say, the obvious solution, and for years was only obstructed by the difficulty of dealing in the refrigerator with the inevitable water vapour. Unlike the so-called "permanent gases," water vapour is always present in the atmosphere, under ordinary conditions, in such quantity as to be actually at its point of saturation. A slight increase of pressure or a slight fall of temperature suffices to precipitate some portion of this vapour. Hence the difficulty. The engine is required suddenly to accommodate in the liquid or the solid form what up to that moment has been present only as a gas; and it is not surprising, therefore, that many—most, indeed—of the engines that have been constructed for this purpose have been liable to clog through accumulations of ice and snow.

The deposition of water as a result of increased tension in water vapour, though theoretically correlative to the deposition through reduction of temperature, does not, indeed, give rise to any practical difficulty. Indeed, in practice it is somewhat in favour of the operation, for as a matter of experience great reduction of temperature is almost always accompanied by simultaneous reduction of pressure. Thus the one condition tends to promote evaporation, while the other is producing condensation. But it falls far short of effecting a complete compensation. Our readers will remember the beautiful experiment of Cailletet, alluded to above, in which hydrogen gas, after being subjected to an enormous pressure and to the refrigerating influence of freely evaporating carbonic acid, was allowed to stream through a cock into the open air. It might have been supposed *a priori* that the relaxation of pressure, which itself produced the cold, would have countervailed the condensing effect of the cold so produced. But it was not so. In the centre of his emergent jet of liberated gas little lumps of solid hydrogen formed and fell upon the floor. In the same way grains of ice form in the expanding water vapour when the reduction of pressure is considerable, and these grains of ice, accumulating in the working parts of the machine, have of course a strong tendency to block it up. How strong this tendency is may be collected from the evidence of one of the engineers, who told Mr. Justice Stephen that "cold air machines are frequently made to deliver 1,680,000 feet per day, and this would produce about 5 cwt. of snow equal to three cubic yards in twenty-four hours without taking into account evaporation from the meat, and this on the assumption that the air taken into the machine is already below freezing." It may well be supposed that the disposal of such a quantity of solid matter generated within the machine would in any case be a serious problem, but it is complicated by the circumstance that this mass of snow comes into existence precisely where it is most mischievous. In order to get the full refrigerating effect, it is necessary to make the air do work during its expansion, and consequently it must be expanded in a closed chamber, in a cylinder in fact. This accordingly is where the snow is formed, and the problem of its removal in the solid form must be faced if once the water vapour gains admission.

Stated thus, the difficulty conveys a hint as to how it may be evaded. All that is wanted in the expansion cylinder is the permanent gas. If the water vapour can be removed the whole difficulty is at an end. Completely to remove it is not practicable, is not desirable perhaps, for it is probable that the desiccating action of a truly anhydrous atmosphere would have a deteriorating effect upon the meat cargo. But by the simple expedient of cooling down the entering air, before admitting it to the expansion cylinder, to a temperature just above 32° F., and giving it time to deposit its condensed moisture in a liquid form, the practical difficulty has been overcome. The liquid water runs away under the mere action of gravity. The residual vapour, though still producing snow, produces so much less than if it had gone into the cylinder at an ordinary atmospheric temperature as to make all the difference between commercial failure and commercial success. Equipped with this contrivance, the merchant finds it as easy to make his way through the circumambient ocean of water vapour as to traverse the subjacent ocean of liquid water, and without risk or trouble to bring his inert cargo of perishable meat for a six weeks' voyage through the tropics. Already the boon of this great enlargement of his meat supply is being felt by the British consumer. Last year it seems that a million frozen carcases arrived in London from New Zealand and the River Plate. In April of the present year 131,000 carcases of frozen mutton were received. Thus a beginning has been made of what will probably in the end prove to be a most important departure in the department of our food supply.

ACCORDING to advices from Jamaica, brought by the Royal Mail Company's steamer *Orinoco*, small-pox has entirely disappeared from the island, but several ports of Cuba are declared to be infected.

THE MANCHESTER EXHIBITION.

THE Manchester Exhibition has proved a great success. The number of visitors has exceeded all anticipations, and at first their advent caused no slight confusion. Thus, the catering came altogether to grief, and there was not food enough to feed all the hungry sightseers. This, of course, was very soon rectified. It cannot, however, be said that all the people who thronged the door of the Exhibition came for the sole purpose of studying the exhibits. At Manchester, as at the South Kensington Exhibitions, there are many other attractions. The gardens are expansive and effectively illuminated, and there is the extra and exhilarating prospect of a ride on the switch-back railway, or a wild career down the toboggan slide. The play of the fountains at night, illuminated by coloured rays of electric light, the excellent bands without, the organ recitals within, the numerous cafés and refreshment bars, the quaint reproduction of an Old Manchester street, achieved in as elaborate a manner as the Old London street at South Kensington, and, above all, the most glorious, sunny, dry weather, have all contributed to render the Manchester Exhibition a success.

Technically viewing the exhibits, there is more to interest the chemist than the doctor, and the chemistry relates rather to industrial enterprise than to sanitary reform. Nevertheless, there are some points of special interest which deserve a few words of notice. For instance, Messrs. Leveson and Son, of London, Manchester, Leeds, and Liverpool, exhibit six invalids' carriages, carefully swung on bicycle wheels; and there are the patent royal Hansoms of Messrs. Forder and Co., of London and Wolverhampton; and the landau and broughams of Mr. J. C. Windover. Then, to go from large things to small, writing nibs and pens generally are of practical interest to a profession so often called upon to prescribe; under these circumstances, the firm of Joseph Gillott and Sons will be welcomed among the exhibitors, particularly as they show us every stage of the manufacturing process necessary to produce the pen, which Bulwer-Lytton has aptly described as "mightier than the sword." There are also our old acquaintances and useful servants, the Owl, the Waverley, and the Pickwick pens of Messrs. Macniven and Cameron; and by the side of these, the medical publications, the anatomical models, and preparations of J. Pentland Young (Edinburgh), the educational publications of Messrs. Cassell and Co., including popular and most useful science works, and the elaborate exhibits of the well-known Manchester publisher, John Heywood. It is, of course, to this latter firm that we are indebted for the very complete and well-organised catalogue of the Exhibition. In the Old Manchester street Mr. Heywood shows us how printing and bookbinding was done in the Caxton period. This quaint and living record of the past is not without its sanitary lesson. Both the men and women engaged in the printing and bookbinding trades were evidently dressed some 300 years ago in a manner far better suited to our climate. The dress was practical, simple, artistic, and of such stout woollen materials as could defy the damp and cold, or the sudden, unseasonable heat, of an English winter.

In the matter of furniture, also, there are many things of interest. Messrs. Neville Glegg, of Altrincham, have gone to the trouble of showing how an artisan's living room might be furnished to secure the greatest amount of health, comfort, and economy in a limited space. Messrs. J. Davenport and Co., on their side, have artistic and sanitary wall papers free from poisonous colouring matter.

Section 3, devoted to chemical and collateral industries, possesses, of course, the greatest number of objects that more particularly concern the profession. The chemical apparatus and scientific instruments of Messrs. James Woolley and Sons, and the laboratory tables of John Haywood, both of Manchester, are effectively and neatly arranged. The former firm has also elegant antiseptic preparations for nursery and toilet use. There is, indeed, a large assortment of disinfectants. MacDougall's carbolic and sulphurous disinfectants, Jeyes' sanitary compounds, the Hydroleine sanitary soap powder, and a new antiseptic named "Salufer."

In the same section there is a very large assortment of soaps. Price's Patent Candle Company have an excellent opaque coal-tar soap. When this soap is transparent it contains a certain portion of glycerine and alcohol; there is consequently so much less washing material. The coal-tar soap in question, however, has neither the one nor the other of these ingredients. It is made of tallow, like pure primrose soap, with an addition of 5 per cent. of coal-tar; it is not black, and need not be black. For those who desire glycerine this firm manufactures a pure solidified soap, which contains no less than 50 per cent. of glycerine, and it is this large quantity of glycerine that produces the transparency without any addition of alcohol. In many soaps the transparency is secured by the presence of sugar and alcohol alone. Price's Candle Company, for example, showed us some of their hard transparent soaps that contain no glycerine whatever. They have recently introduced a new method of removing glycerine from neutral fats by means of magnesium instead of lime, and this enables them to obtain a glycerine of a much purer character. Their soap, containing 50 per cent. of glycerine, must be regarded as a purely medical article, and is not meant for ordinary daily use. Where, however, glycerine is required, it would be difficult to find a combination giving so large a quantity in the form of soap.

Among the goods of other manufacturers, we noticed the hazel soap of Messrs. James Alexander and Co. of London; the health soap of the Health Soap Company, Liverpool, who also show their process of manufacture; the soaps and oils of Messrs. Senior and Brooks; the well-known sunlight soap of Messrs. Lever Brothers, with a complete model of their very large works; and the samphire soap of Messrs. J. C. and J. Field. Some white Windsor soap of Messrs. Joshua Margerison and Co. seemed very inexpensive, and being made with potash instead of soda is suitable for hard water. The Pedeline powder and soap, made by Mr. F. Round, chemist of Southport, was attracting considerable attention. Used for washing the feet and for powdering the inside of boots or socks, it is presented for the prevention of sore, tender, or unpleasant feet.

In the same section, we also noted that Mr. J. W. Lovibond of Salisbury exhibits a tintometer which, though meant for testing the density of dies and colouring material used in manufactories, would serve as a quick, ready means of applying the Nessler's test in the analysis of potable waters. Near at hand, Herr Franz Müller has some German chemical and physical apparatus; and there are several exhibits of non-poisonous paints, notably Freeman and Co.'s white-lead paint, which, however, only professes to be free from injurious smell. There were many exhibits of chemicals for bleaching, finishing, dyeing, and calico printing, which, according to their freedom from mineral and vegetable poisons, have a great effect on the health of workers in the factory and in the mills.

There is an entire group devoted to indiarubber and gutta percha, and here Messrs. David Moseley and Sons have waterproof garments that are necessarily most useful to those who are compelled to face all weathers when calling on their patients; and the Ancoats Vale Rubber Company show domestic and surgical indiarubber articles worthy of note. The exhibits of Owens College, Manchester, constitute a small historical, chemical museum of great retrospective interest; and it was a happy idea to include this collection in the Third Section. Close by, Messrs. Thomas Christy and Co., of London, have many raw and manufactured drugs and some specimens of the less known medical plants. They give great prominence to methods for inhaling.

With regard to sanitary matters, such as ventilation and drainage, we could not find anything remarkable. Even Messrs. Doulton and Co. were not up to their usual high level of excellence. The newest object they exhibited was a graphic drawing which facilitates the appreciation of their improvement in the Stamford drain-pipe joint. Nor is the Exhibition building itself satisfactorily drained, for we could discover no trace of the intercepting man-holes, and the inlet and outlet ventilation of the soil pipes so well shown by this firm at the London Health Exhibition. The closets of the Manchester Exhibition, we believe, drain straight into the sewers without any interception and without any ventilation of the soil pipes. At all events, though we made several inquiries as to this point, we could find no evidence of these most indispensable precautions. We ought also to enter a protest against the condition of the ornamental waters in the gardens. These were extremely dirty, and consequently lost much of their attractiveness to the eye.

BEST COPY AVAILABLE

In spite, however, of these drawbacks, the Exhibition as a whole, is well organised, and has, we repeat, proved a great success. The machinery in motion is naturally, for a town in Lancashire, the principal part of the Exhibition, unless we include the art gallery, where many of the *chef d'œuvres* of English art, painted during the last fifty years, will be found. There is also an Irish section that has elicited considerable praise. Finally, though the Exhibition is some distance from the centre of Manchester, it is easily reached both by tram and rail. We trust it may still remain open for some time, as it will amply repay a visit on the part of those who have not yet been able to avail themselves of the many excursions and opportunities afforded of inspecting this collective display of northern industry and progress.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Hull Urban District.—Dr. Mason reports the general death-rate for Hull during 1886 to have been 18·6 per 1000, and the zymotic rate 2 per 1000. Both these rates exhibit a substantial diminution on the average rate for previous years, and the items which go to make up the latter are indicated in a useful but simple form by a diagram which discriminates between deaths from general and zymotic causes. Diarrhœa was by far the most fatal of the zymotic diseases, the rate from that disease alone reaching 1·37 per 1000—a higher rate than any since 1882. The deaths under one year of age are also high, amounting to 164 per 1000 registered births. Dealing with diarrhœa, Dr. Mason points out how favourable summer heat is to fermentative changes, which lower the vitality of the young and the aged, thus rendering them more liable to succumb to this disease, which he regards as being doubtless dependent upon the reception and propagation of some micro-organisms in the system. The hospitals for infectious disease continue to do service, the new sanatorium being highly spoken of for design and equipment. Hospital isolation is becoming more and more popular, and of 265 admissions during 1886, 251 were from scarlatina; that is to say, from a disease mainly affecting young children, as to whose removal from their homes difficulties are so frequently alleged by those authorities who have made no proper provision for their reception. The report in question contains a large number of valuable tables and diagrams, and it explains in detail the general measures of sanitation which have, with success, been carried out during the year.

Winchester Urban District.—Mr. Langdon gives a graphic account of the danger from small-pox which communities incur through the unvaccinated state of gipsies. Small-pox encampments were last year established near the city, and the announcements made by the sanitary authorities as to the existence of small-pox amongst the gipsies practically broke up the Lent Fair, which would otherwise have been the cause of much danger. But it is stated that, owing to an announcement in a local paper, some 400 people from Winchester visited the small-pox camp, and Mr. Langdon points out that the well-vaccinated state of the community alone protected them from infection. As regards the gipsies themselves, their failure to procure vaccination has been solely a matter of carelessness, and they gladly availed themselves of the offer of protection. At the gipsy camp no unvaccinated person escaped infection, and none who had recently been successfully vaccinated took the disease. The death-rate in the whole district from all causes was 18·0 per 1000 during 1886; the zymotic rate was 2·3.

Barnstaple Urban District.—Dr. Mark Jackson reports a birth-rate of 29·7 and a death-rate of 17·7 per 1000 for 1886. Neither small-pox, measles, nor scarlet fever caused a single death, the largest item amongst the so-called zymotic diseases being eight deaths from diarrhœa. In referring to five deaths from diphtheria, Dr. Jackson speaks of a prevalence of throat affections generally, the milder disease probably rendering the individual more liable than he otherwise would be to an attack of true diphtheria. The general record of sanitary work in progress is satisfactory; but there is no infectious hospital. Such a building should be provided, and the caution not to let the matter stand over until an emergency arises should be borne in mind. A disinfecting apparatus is in contemplation. Properly speaking, it should stand on the future hospital site, where it would be available for town and hospital purposes.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5605 births and 4128 deaths were registered during the week ending August 20th. The annual rate of mortality in these towns, which had been 22·9 and 23·7 per 1000 in the preceding two weeks, declined last week to 23·3. During the first seven weeks of the current quarter the death-rate in these towns averaged 22·2 per 1000, and was 1·0 above the mean rate in the corresponding periods of the ten years 1877-86. The lowest rates in these towns last week were 15·0 in Derby, 16·9 in Norwich, 17·1 in Halifax, and 18·2 in Leicester. The rates in the other towns ranged upwards to 29·9 in Birkenhead, 30·1 in Preston, 30·8 in Blackburn, and 33·5 in Manchester. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had declined from 1301 to 1252 in the preceding three weeks, further fell last week to 1195; they included 878 from diarrhœa, 100 from whooping-cough, 87 from measles, 61 from scarlet fever, 35 from "fever" (principally enteric), 30 from diphtheria, and 4 from small-pox. These zymotic diseases caused the lowest death-rates in Halifax and Norwich, and the highest in Hull, Brighton, and Portsmouth. Diarrhœa caused the greatest mortality in Salford, Brighton, Hull, Birmingham, and Portsmouth; measles in Manchester, Bradford, and Oldham; scarlet fever in Bristol and Blackburn; whooping-cough in Cardiff, Sunderland, and Blackburn; and "fever" in Cardiff and Huddersfield. Of the 30 deaths from diphtheria in the twenty-eight towns, 22 occurred in London and 2 in Liverpool. Small-pox caused 4 deaths in Sheffield, but not one in London or in any of the twenty-six other large provincial towns. Only 3 cases of small-pox were under treatment on Saturday last in the Metropolitan Asylum Board's hospitals receiving cases of this disease, of which one was admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 158 and 175 in the preceding two weeks, further rose last week to 178, but were 3 below the corrected average. The causes of 79, or 1·9 per cent., of the deaths in the twenty-eight towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Norwich, Leicester, Salford, Sunderland, and in five other smaller towns. The largest proportions of uncertified deaths were recorded in Newcastle-upon-Tyne, Sheffield, Oldham, and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·1 and 19·3 per 1000 in the preceding two weeks, delined again to 18·6 in the week ending August 20th; this rate was 4·7 per 1000 below the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 13·3 and 15·1 in Aberdeen and Greenock, to 21·1 and 34·2 in Perth and Paisley. The 464 deaths in the eight towns last week showed a decline of 18 from the number in the preceding week, and included 44 which were referred to diarrhœa, 24 to whooping-cough, 12 to scarlet fever, 6 to "fever," 1 to diphtheria, and not one to small-pox; in all, 87 deaths resulted from these principal zymotic diseases, against 73 and 81 in the preceding two weeks. These 87 deaths were equal to an annual rate of 3·5 per 1000, which was 3·2 below the mean rate from the same diseases last week in the twenty-eight English towns. The fatal cases of diarrhœa, which had been 28 and 37 the preceding two weeks, further rose last week to 44, of which 11 occurred in Glasgow, 10 in Paisley, 9 in Edinburgh, and 6 in Dundee. The 24 deaths referred to whooping-cough showed a decline of 4 from the number in the previous week, and included 6 in Glasgow, 5 in Edinburgh, 4 in Dundee, and 4 in Greenock. The 12 fatal cases of scarlet fever showed a further increase upon recent weekly numbers, and included 6 in Glasgow and 5 in Dundee. The

deaths referred to "fever," which had been 9 and 1 in the preceding two weeks, rose again to 6 last week, of which 4 occurred in Glasgow. The fatal case of diphtheria was recorded in Dundee. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 67 and 71 in the previous two weeks, were 69 last week, and exceeded by 7 the number returned in the same week of last year. The causes of 53, or more than 11 per cent., of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 29·6 and 31·5 per 1000 in the preceding two weeks, further rose to 35·5 in the week ending August 20th. During the first seven weeks of the current quarter the death-rate in the city averaged 30·3 per 1000, the mean rate during the same period being but 22·5 in London and 18·8 in Edinburgh. The 240 deaths in Dublin last week showed an increase of 27 upon the number returned in the preceding week; they included 39 which were referred to diarrhœa, 27 to measles, 5 to whooping-cough, 4 to "fever" (typhus, enteric, or simple), 3 to scarlet fever, and not one either to small-pox or diphtheria. Thus the deaths resulting from these principal zymotic diseases, which had steadily risen in the preceding five weeks from 45 to 58, further rose last week to 78; they were equal to an annual rate of 11·5 per 1000, the rate from the same diseases being 5·7 in London and 3·2 in Edinburgh. The fatal cases of diarrhœa, which had been 29 and 23 in the previous two weeks, rose again to 39 last week. The deaths referred to measles, which had been 16 and 27 in the preceding two weeks, were again 27 last week. The 5 fatal cases of whooping-cough were within one of the number in the previous week, and the 4 deaths referred to "fever" exceeded those recorded in any recent week. The deaths of infants showed a marked excess, while those of elderly persons declined. Eight inquest cases and 8 deaths from violence were registered; and 51, or nearly one-fourth, of the deaths occurred in public institutions. The causes of 49, or more than 20 per cent., of the deaths registered during the week were uncertified.

THE SERVICES.

WE learn from the Indian papers that Surgeon J. C. Addison, of the Army Medical Staff, has, with the sanction of the military authorities, established an Ambulance Association at Quetta, and has been delivering a course of lectures on "First Aid to the Wounded." His class consisted of twenty-four ladies and a large number of the officers at the station.

WAR OFFICE.—Army Medical Staff: Brigade Surgeon Albert Stanley Knight Prescott has been granted retired pay, with the honorary rank of Deputy Surgeon-General (dated July 26th, 1887); Surgeon-Major Samuel Flood is granted retired pay, with the honorary rank of Brigade Surgeon (dated Aug. 24th, 1887).

ADMIRALTY.—In accordance with the provisions of Her Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon John Shields has this day (16th inst.) been placed on the retired list, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets. Fleet-Surgeon Fleetwood Buckle, M.D., has been placed on the retired list of his rank (dated Aug. 12th, 1887).

The following appointments have been made:—Fleet Surgeon H. S. Lander, to Devonport Dockyard; Fleet Surgeon S. H. Stewart, to the *Impregnable;* Fleet Surgeon J. B. Courtenay, to the *Clyde;* Staff Surgeon E. R. H. Pollard, to the *Ganges;* Staff Surgeon S. F. Hamilton, to the *Devastation;* Staff Surgeon C. Hicks, to the *Neptune;* Surgeons G. B. Townsend and H. J. Hadden, to the *Nelson*, additional; Surgeon P. J. Barcroft, to the *Revenge;* Surgeon F. R. Jeans, to the *Monarch;* Surgeon R. W. Rickards, to the *Hotspur;* Surgeons G. H. Milnes and C. H. Upham, to the *Alexandra*, additional; Staff Surgeon J. C. B. Maclean, to the *Agincourt;* Staff Surgeon D. D. Birkey, to the *Espiegle;* Staff Surgeon E. H. Saunders, to the *Garnet;* Staff Surgeon William R. White, to the *President*, additional, for temporary service; and Mr. R. A. Nesbitt to be Surgeon and Agent at Donaghadee, Orlick Hill, Millisle, and Ballywater.

RIFLE VOLUNTEERS.—4th Volunteer Battalion, the Gordon Highlanders: James William Mackenzie Gunn, M.A., M.B., to be Acting Surgeon (dated August 20th, 1887).—2nd Volunteer Battalion (the Prince of Wales's), North Staffordshire Regiment: Surgeon H. M. Morgan, M.D., is granted the honorary rank of Surgeon-Major (dated August 20th, 1887).

Correspondence.

"Audi alteram partem."

"USEFUL EMPLOYMENT IN THE TREATMENT OF THE INSANE."

To the Editors of THE LANCET.

SIRS,—Writing under the above heading in your issue of August 20th, Dr. Bower is good enough to refer in complimentary terms to the management of this hospital. His letter, however, contains at least one, doubtless inadvertent, inaccuracy, which, I feel sure, he will be pleased to see corrected. He conveys the impression that the system of employment of patients is here of quite recent development, and adduces want of premises as an explanation of our apparent tardiness and want of energy. In both these particulars he is entirely in error. This institution has for many years had immediately attached to it an estate of nearly seventy acres (ornamental grounds, flower and kitchen gardens, &c.), and been equipped with the usual complement of workshops and the like. It is obvious, therefore, that it has not lacked the necessary resources. As to the utilisation of this material, it is certain that, during the tenure of office of the present medical superintendent (a period of over twenty years), employment of patients, particularly in out-door work, has been regarded as a remedial agent of the most radical importance, and been carried out to the fullest possible extent. The case-books and other hospital records at any time during the past ten years indicate a proportion of working patients nearly, if not quite, as high as at present. It is true that the purchase, seven years ago, of an annexe, with a farm of 500 acres, has in a measure favoured the development of the employment system, but in no sense originated it. It has rendered practicable the devising of greater variety in occupation, but has not materially increased the number of the workers.

In a paragraph of their Forty-first Annual Report, the Commissioners in Lunacy note with approval the fact that one-third of our male patients were employed in out-door work in April, 1886. This estimate is, of course, perfectly correct so far as it goes, but it does not entirely cover the ground. In illustration of my meaning, I beg leave to append statistics, as to occupation, of a day taken at random in the past week:—

Total number of male patients	164
Employed on farm, grounds, and gardens ...	60
" in in-door work (carpentry, printing, tailoring, &c.)	19
Cricket, tennis, bowls, driving, fishing, &c. ...	15

The addition of the inside workers to those employed out of doors raises the number of those usefully occupied to 79, or nearly 50 per cent. In-door work, though for obvious reasons less beneficial than labour in the open air, is nevertheless resorted to in a small minority of instances—patients who are either strongly averse to, or physically unfit for, out-door employment.

Considering next the 15 who are entered as devoting their time to various forms of recreation, I may remark that the majority, if not all, of these individuals are both mentally and physically capable of engaging in manual labour, if it were insisted on. Their preference, however, for healthy amusement in place of actual work cannot under the circumstances be reasonably interfered with. In a pauper asylum, however, where such counter-attractions are practically non-existent, this class of patients would undoubtedly go to swell the ranks of the usefully employed.

When to the numbers already quoted, I make two further additions—to include, first, those who are incapacitated by bodily illness or physical infirmity, and, secondly, those who, without pretending to any regular employment, yet occupy themselves in a rational manner in the wards (reading,

writing, drawing, music, &c.),—I find, out of a total of 164 male patients, a residuum of not more than 20 who can be truthfully denominated as hopelessly idle. These are either incurably indolent, or else so demented or intractable as to baffle all efforts to improve them.

Taking into account the comparatively large number of patients, the classes of society from which they are drawn, the various difficulties in the way of enforcing such a plan of treatment, amongst which the ill-advised opposition of relatives and friends is one of the most practical and embarrassing, the result which I have endeavoured to indicate above is not, I venture to think, wholly unsatisfactory.

I am, Sirs, faithfully yours,

LLOYD FRANCIS, M.A., M.D. Oxon.,
Senior Assistant Medical Officer.

St. Andrew's Hospital, Northampton, Aug. 23rd, 1887.

"DIPHTHERIA IN MAN AND THE LOWER ANIMALS."

To the Editors of THE LANCET.

SIRS,—In a leading article on the above subject in your issue of the 13th inst., you draw attention to a report lately issued by Dr. Turner, in which he deals with the relationship that, according to him, exists between diphtheria of man, the horse, the cow, the pig, and poultry. I have not at present seen Dr. Turner's report, but I am, nevertheless, bound to accept the statement in your article as in some sense reflecting the general conclusions with which it deals.

Dr. Turner seems to have arrived at the conclusion that the disease so well known to veterinary surgeons as affecting poultry, and in which a false membrane is formed in the mouth, throat, nostrils, and conjunctivæ, is identical with diphtheria, and he speaks of the membranous product as being *found in the trachea*. At first sight does this statement bear out the relationship? I have always understood that diphtheria is, in the human subject, mainly localised in the pharynx and fauces, and if I am wrong in this ingrained supposition, I may still fall back upon my experience, and say that I have never yet seen anything approaching a diphtheritic product in the trachea of any feathered creature; but I will not beg the question thus, as I am perfectly well aware that circumstances alter cases, and that slight histological differences exercise a material influence in the characters of pathological or, more strictly speaking, histological processes. I cannot at the moment remember the name of the pathologist who some time ago stated that the difference between catarrhal, croupous, and diphtheritic products was merely histological, and was dependent upon the difference in the arrangement of the epithelium in the mucous membrane of the pharanx, larynx, and trachea respectively, and that the same disturbing influence (only in a different degree) that would produce catarrh or croup in one would produce diphtheria in another; and until this statement was published I was at a loss somewhat to account to my pupils for a fact which I had on more than one occasion observed—viz., the occurrence of true diphtheritic products in the larynx and trachea of the cow. Diphtheria I have only seen once in the horse; it is more common in the pig; and a few years ago cases occurred in swine and cattle in the practice of Mr. Campbell, F.R.C.V.S., Kirkcudbright, on farms where diphtheria *had prior existence* in the attendants. Such statements as that made by Dr. Turner to the effect that "strangles in the horse appears to have some real kinship with human diphtheria" are gratuitous assumptions, and not borne out by the experience of every-day practice. That strangles in some seasons takes on protean characters is a fact well known to all observant veterinary practitioners; that it bears in its essential characters any resemblance to, or has any clinical kinship with, diphtheria are, again, gratuitous assumptions, and all the more so seeing that Dr. Turner attempted to impart to them an air of plausibility by the further statement that "a large proportion of fatal attacks of diphtheria has also been observed to occur in the families of persons—such as shepherds [this brings in the innocent sheep], grooms, and blacksmiths—who have to do with the lower animals." Really this is drawing conclusions (if I may be permitted to say so) from false data with a vengeance. Why does he not put cowherds and swineherds in the list? Dr. Turner, it seems to me, has lost sight of a well-known law bearing upon enzootics and endemics and epizootics and epidemics, to the effect that in certain seasons this class of affections rage simultaneously, and that the same forces which favour the production or prevalence of epidemics and endemics are equally operative in the propagation and spread of epizootic and enzootic diseases. Returning to Dr. Turner's primary argument as to the prevalence of diphtheria in poultry and pigeons, I may be forgiven when I express the doubt that he has not made himself acquainted with the current medical and veterinary literature on the subject during the past few years, both in this country and on the Continent.

About the year 1865, I saw, in the neighbourhood of Liverpool, cases in poultry which I looked upon as of the nature of *diphtheritic aphtha*. On my removal to Edinburgh (in the years 1871-2), I came across similar cases in pigeons, poultry, and canaries, and in the first lectures it was my privilege to give in the Royal Veterinary College on the subject of infectious and contagious diseases I described an affection that I considered partook partly of the nature of aphtha and partly of that of diphtheria by the dual term *diphtheritic aphtha*, and which was most certainly contagious and infectious between poultry and pigeons. I further attributed it to the action of a fungus (a leptothrix), and thought that its production was favoured by insanitary conditions and all influences that tended to lower the vital forces, such as damp, cold, and in-breeding. Some time after this a disease was described by Dr. Fleming, in his "Sanitary Science and Police," under the head of "Gregarinosis" or "Psorospermiosis," the clinical characters of which resembled those of diphtheritic aphtha. The terms mentioned were, if I mistake not, of continental origin, and were applied to the disease because it was believed to be due to a form of psorosperm or gregarina.

In 1879 M. Megnin described diphtheria of poultry, and distinguished two forms—(1) a false membranous form, and (2) a tuberculous form, the former being localised in the pharynx, nose, &c., the latter in the internal organs and muscles; and Megnin identified the disease (histologically) with the hepatic tuberculosis of rabbits. Megnin also asserted that M. Nicati sought to identify the affection with the diphtheria of man; but he himself combated Nicati's identification by drawing attention to the fact that he had frequently seen women and children eat infected poultry with impunity, and by the experiments of Trasbot of Alfort, who inoculated pigs and dogs ineffectually, fowls successfully, and who stated that a pupil of his—M. Faiés—placed diphtheritic membrane (from fowls) in his own throat with impunity.

In May, 1882, I read a paper on "Specificity in Disease" at a meeting of the North of England V. M. Association held at Newcastle, and amongst other subjects touched upon the disease designated "gregarinosis." For some time I had had doubts as to the nature of the disease, and strongly suspected that causally—as most certainly pathologically—it was intimately related to tuberculosis; but there were certain differences in the characters of its local manifestation which I could not reconcile with those of the last-mentioned disease. These were principally the presence of flattened yellow bodies in the intermuscular connective tissue, the peculiar croupous transformations so frequently seen in the lungs, and the cylindrical croupous and hæmorrhagic masses sometimes forming in and occluding the intestines, with the absence of that marked tendency to calcification so characteristic of tubercular granulomata. In the paper alluded to I concluded my remarks as follows:—"The dissemination of the nodules internally is certainly similar to that of ordinary tubercle, and, as in that disease, death is largely produced by anæmia and exhaustion. But, in other respects, the two diseases differ widely, though one is undoubtedly quite as specific in its nature as the other."

Since the above-mentioned date I have arrived at the conclusion that the disease might be due to a cladothrix form of fungus, the visible products of whose action were, as in the case of actinomycosis, granulomata. In August, 1883, attention was directed to the subject of Tuberculosis in Fowls, in a leading article in THE LANCET. And again in October, 1884, the statement of Emmerich to the effect that he had discovered a bacterium in the false diphtheritic membrane from pigeons is noticed in THE LANCET. The spread of disease amongst domestic poultry has been going rapidly on for some years, and in several—in fact, I may say in all—specimens examined by the newer methods of staining, my colleague, Professor McFadyean, has succeeded in detecting bacilli identical with those of tubercle. Whether, however, there are two distinct forms of disease in poultry,

a diphtheritic and a tuberculous, or one disease manifested in different ways clinically, must be left an open question; but of the widespread prevalence of tuberculosis in the feathered tribe there can be now little doubt. An admirable article on this subject appeared in the *American Journal of Comparative Medicine and Surgery* for October, 1886, by Dr. Bland Sutton; it was entitled "Avian Tuberculosis."

I am, Sirs, your obedient servant,

Edinburgh, August, 1887. THOMAS WALLEY.

THE ALLEGED CASE OF ASIATIC CHOLERA AT NEWTON-POPPLEFORD.

To the Editors of THE LANCET.

SIRS,—You will probably think the following case of sufficient importance for insertion in an early issue of your valuable journal.

At 7 A.M. on Saturday the 23rd ult., I was called on to visit John F——, aged sixty-seven, a small farmer residing at Newton-Poppleford in the parish of Aylesbeare, distant about nine miles from Exeter. I was well acquainted with the man, who was strong, and enjoyed uninterrupted good health. Formerly he had been rather intemperate, but of late years had been what would be called a "moderate drinker." On my arrival at 9.30 A.M., I was informed that, after a light supper of bread and cheese and a single glass of ale, he retired to rest at 9.30 (his usual hour) on the previous evening, apparently perfectly well. At 1.30 A.M. on Sunday (eight hours before my arrival) he was seized with sickness, which was speedily followed by copious relaxation of the bowels, and in about an hour cramp in the upper and lower extremities set in, and increased with the purging and vomiting until my arrival. No stools or vomicæ had been preserved. The former were described as "at first like dirty water and then light yellow," and the vomited matter as "thick and brown," except when he took tea or milk, which was ejected as soon as swallowed. I found him prostrate and restless; features pinched; eyes sunk; the whole surface of his body bore a marked leaden hue, covered with a cold, clammy sweat. His voice (which I heard, and which forcibly struck me as I ascended the stairs to his room) was completely changed into a whine or loud whisper. His respiration was difficult, and the breath and tongue quite cold. The toes and fingers—the skin of which was much pinched—were severely contracted during the cramps, and the muscles of the calf "quivered" during the absence of cramp. He complained of no griping in the bowels, but of great uneasiness at the epigastrium, severe thirst, and craving for cold water, which was allowed *ad libitum*, but instantly thrown up. Pulse small, thready, and rapid. Temperature in the mouth (taken with great difficulty, and not to be relied on) 98°. At 10.30 P.M. I again visited him, in company with my son (Mr. Bingley G. Pullin). The colour of the body was very livid, the eyes more sunk, the face more pinched, and the hands sodden, as if long immersed in water. Pulse not perceptible. Body covered with sweat of icy coldness. There was at this time a slight return of heat in the breath and tongue, and the purging and sickness had been less severe with the medicine, and he had dozed for a few minutes at a time, but he was now very prostrate and restless, rolling from side to side with severe cramps. Three stools had been reserved, which closely resembled thin gruel or rice-water. The patient stated that no urine had passed during the attack, but about one ounce was taken, which in his struggles was spilt and the opportunity to analyse lost. My son remained to ensure the necessary remedies being carried out. All, however, was of no use, and the patient succumbed at 2.30 A.M. on Sunday (twenty-five hours from commencement of attack). It was not until an hour before he died that stupor set in and his mind gave way. The contraction of the muscles of the calf continued for two hours after death, and during this period the temperature of the body had risen, but in three hours rigor mortis had powerfully set in. The treatment consisted in the first instance of three grains of calomel placed on the tongue, with ten minims of dilute sulphuric acid and ten minims of tincture of opium, every hour, and subsequently diffusible stimulants of ammonia and ether, with friction and chloroform liniment.

The dwelling was isolated and elevated, and both it and its surroundings were sanitarily satisfactory and the water pure. No diarrhœa prevailed in the family or village, and none has appeared since. It will be asked, What was the cause of the attack? Was it the result of a "specific poison"? I leave wiser heads to determine this point. There was no premonitory stage. It manifested itself suddenly in a most virulent manner, and, as is usual, as far as my experience goes, such cases invariably prove fatal. That the intensity of the attack was determined by the heat of the day, I feel no doubt. During his work on the previous day he came into his house three times to shelter himself from the effects of the sun—quite an exceptional circumstance; and the temperature taken in the neighbourhood that day by one of the most reliable meteorologists (Dr. Radford) was 139° in the sun—a heat never registered higher in the neighbourhood before, and only once so high. I consider it to have been a case of Asiatic or malignant cholera, and to guide me in this opinion I have the advantage of the experience of the severe cholera epidemic of 1849, when I acted professionally under the then Government General Board of Health at Portsmouth, Plymouth, and Cornwall. No symptom that I witnessed during that epidemic was wanting in this case. A post-mortem examination was refused. I may mention that the coffin was saturated with Burnett's fluid, and the corpse wrapped in cloths saturated with Calvert's strong carbolic acid, and interred in forty-eight hours. The bed, bedding, and everything used during the illness I insisted on being burnt at once, the house powerfully fumigated, and the entire premises thoroughly cleansed.

I am, Sirs, yours faithfully,

THOS. H. S. PULLIN, M.D.,

Sidmouth, Aug. 23rd, 1887. Medical Officer of Health for Sidmouth.

"PAIN AND ITS INTERPRETATION."

To the Editors of THE LANCET.

SIRS,—With your indulgence I would offer a few words in reply to Dr. Collins' letter in your last issue. I am not quite sure how that letter should best be answered, but certainly the worst way would be to imitate its method. No good purpose can be promoted in that way. The burden of this letter is in two remarks. The first is that my statements concerning pain "are so strangely at variance with universal experience and common sense that it is incumbent upon anyone who has read them to controvert them." Now, my answer is that I have the best proof possible that Dr. Collins' knowledge is at fault concerning universal experience, and I fear uncharitable as regards common sense; for I have from utter strangers and from all parts of the country the most unqualifying encouragement to continue my papers on the Interpretation of Disease, and this last paper on Pain has been received most favourably. I have had many private letters concerning it; it has been quoted *verbatim* by several provincial papers, with very pertinent and encouraging comments; and what I esteemed perhaps more than all this was your own annotation in the same issue, which very distinctly asserted the beneficence of pain.

I trust Dr. Collins will credit me that I am not anxious to entertain any theory of pain that is wrong or unreasonable, but I must say that there is nothing in his letter to convince me that this beneficent view of pain is wrong. The assumption of universal experience and a private property in common sense is scarcely safe, and any *ipse dixit* based on such disposition is sure to be largely discounted. I must be held excusable, then, if I say I still adhere to every word of my paper. When Dr. Collins charges me with not excepting malignant diseases he does me an injustice. I did make distinct reference to these "apparent exceptions"; no person at all thinking of the matter could escape so doing. But he takes no notice of my attempt to reconcile these with the beneficence of pain. This is unfair and unfortunate; for as long as the philosophy of disease is treated in that manner, so long will our profession rest under an *opprobrium medicinæ* worse even than cancer. I have nothing to do at present with the "wider sense" in which pain may be viewed. I am only concerned with the individual, and I am not afraid that anything determined right for the individual shall be found at variance with the wider signification of pain when that is adequately declared and understood. As to Dr. Collins' own rendering of the matter, which I honestly confess I did not understand, the

Daily News seems to me to have touched it off quite neatly and gently.

Surely this most important question can be rationally discussed so that some clear understanding may be come to. There are to my own knowledge not a few able men quite clear on the purpose of pain. They may have something to say. I am, Sirs, your obedient servant,

Brockley, S.E., Aug. 22nd, 1887. H. CAMERON GILLIES.

CASE OF HYSTERICAL SPASM SIMULATING TETANY.

To the Editors of THE LANCET.

SIRS,—In connexion with the above subject, reported by Dr. F. F. Caiger in your issue of Aug. 20th, I think the following will be read with interest by many neurologists.

M. P——, female, aged twelve years, a provisional pauper, came under my notice about the end of last June with symptoms of gastro-intestinal disturbance, produced—as is so commonly the case, especially at this season of the year—by taking food of bad quality and in insufficient quantity. She lives in one of the lowest parts of a provincial town, amidst bad sanitary surroundings. The house she lives in is an ordinary cottage, and, besides the family, accommodates one or more Irish lodgers, and is in a very dirty state. My patient is a bright, intelligent little girl, with fair hair and blue eyes, small and slightly made, and with a pinched face and subdued manner. There is no evidence of syphilis or worms, nor has she ever had any catamenial discharge. During the winter months she nursed a younger brother through an attack of scarlatina, and when in her usual health she does most of the housework. She attended the surgery from time to time, complaining of occasional vomiting, pain behind the sternum and in the abdomen, and constipation, and was treated with a mild saline purgative and a few drops of opium. She came to the surgery for the last time on August 8th, and on the 9th, about 7 P.M., I received a message to go at once, as she was "in fits." I attended almost immediately, and when I opened the door the following scene met my gaze. On a bed under the window of the living room into which I entered, and close to a great fire where culinary operations were going on, lay my patient, surrounded by six or seven dirty women and two or three dirty men, each of whom was holding some different part of her body. She was quite still when I entered, and watched me approach her; but as soon as I touched her the following convulsion occurred. The depressors of the lower jaw contracted, opening the mouth to its fullest extent, the facial muscles attached round the mouth contracted, fully exposing the teeth in both jaws. As soon as this action was completed the post-cervical muscles commenced to contract, and drew back the head until the tip of the nose rested on the pillow. The wave of contraction then passed slowly down the spinal muscles; the thorax bulged forward, then the abdomen, and then the legs became rigid. Although the child is not more than four feet six inches in height, I think I shall be well within the mark in saying that the lumbar region rose twelve inches from the bed, and she rested solely on her forehead and heels. The legs were now drawn up, and then violently extended. This had the effect of forcing the face upwards against the iron bed-head, and had not her shoulders been raised into a semi-erect position, the face would have been seriously injured against the iron work (as happened once or twice to a slight extent). The spasm seemed now to attack the remaining muscles, and the consequence was that the whole body became rigid and straightened out, with the head thrown back. The spasm seemed now to pass off, leaving one side sooner than the other, thus producing pleurothotonos, with the concavity towards the left. The whole attack lasted two or three minutes, and was repeated several times during my visit, all being very much alike by varying in slight details. It was impossible to take the temperature, but I came to the conclusion that the case was hysteria, and—my suggestion that the case would be better treated in the workhouse hospital not meeting with any approval—I enjoined strict quiet in a cool room, from which sightseers were to be rigorously excluded, and left without ordering any other treatment. The next day, Wednesday, the 10th, I found that the convulsions had continued through the night, and were, if anything, more severe than when I last saw her. I injected a quarter of a grain of morphia hypodermically, but found later in the day that it had had no effect in checking the convulsions. On Thursday, the 11th, I found her still in convulsions, and much exhausted; the convulsions, I was informed, had continued at intervals since my last visit. I ordered her a mixture containing five minims of tincture of Calabar bean and ten grains of bromide of potassium every two hours. On the 12th I was told that my patient took the mixture with great difficulty, and complained of its being very salt. From her general expression and semi-somnolent manner, I began to fear that, after, all I had to do with commencing meningitis, and, there being some constipation, I gave her two powders at intervals of three hours, each containing a little calomel and half a minim of croton oil, which operated promptly and without causing any disturbance. When I saw her in the evening, she was not convulsed, but pressure on the ovarian region induced a pretty severe convulsion. On Saturday, the 13th, I heard her screaming as I came up the street—"Oh, mother! Cut my legs off. Oh, my legs and my back! Mother, be quick!" As soon as she ceased to cry out she went into a convulsion similar to the one I have described. She appeared quite unconscious of what went on around her, and after giving orders for the mixture to be pushed I left. On Sunday, the 14th, I found her singing, shouting, and beating time with her arms and legs, heedless of all that went on around. I was told that she had slept well during the night, and awakened seemingly all right, but that on an attempt being made to give her the mixture the present state of things commenced. The attack passed off during my visit, giving me an opportunity for the first time of taking her pulse (80) and temperature (98·8°). I now became satisfied that I had to do with hysteria, and thereon determined to stop the mixture and watch the progress of the case. Later on in the day, at the urgent request of her friends that I should give her something, I sent a mixture of burnt sugar and water, and was informed on my next visit, when I found her perfectly quiet and sensible, that it had done her a deal of good, and that she had not had a single attack since taking the first dose. I took this opportunity of informing her friends in her hearing that I declined having anything more to do with the case, and that if she had any more convulsions I should insist on her going to the workhouse. Since that time I have heard nothing of her. I am, Sirs, yours faithfully,

Barnsley, Aug. 24th, 1887. EDWARD KERSHAW.

EIGHTEEN MONTHS' TRIAL OF CANTANI'S TREATMENT OF CONSUMPTION.

To the Editors of THE LANCET.

SIRS,—Your admirable leader on Bacterio-therapy in your number for July 23rd last deserves not only the attention but the careful study of medical men. It is a garden of valuable suggestion, and contains the rich fruits of extended experience.

When discussing the erysipelas streptococcus injections of Fehleisen and the bacterium termo inhalations of Cantani, you write "Cantani's method has proved a failure," and then you give Dr. Pawlowsky's explanation of the cause of that failure—viz., "the confusion of many species of bacteria under the head of bacterium termo," and you add, "also the reliance solely upon the antagonism of these two organisms, the bacterium termo and the tubercular bacillus, as sufficient to cause the destruction of the latter." Pawlowsky's explanation and your additions are instructive and reasonable, but, these exceptions being removed, experience leads me to disagree with the conclusion that "Cantani's method has proved a failure." In the previous part of your article I read: "On all sides we hear of bacillicidal methods, but the results are not commensurate with the faith that inspires them or the plausibility of the grounds on which their employment is based.... and yet we by no means despair of a way being found out of the morass." And you continue: "That way lies, we think, in affording to the organism support sufficient to cope with the bacterial hordes—in other words, to strengthen the powers of vital resistance." Did I try to describe to you the system which I have pursued in the treatment of consumption for the last eighteen months, I could not adopt more suitable language

than that which your suggestion employs. I have made Cantani's bacterium termo the basis. In a letter which I received from him occur these words: "Le B. termo, qui m'a servi si bien contre la phthisie, est une espèce particulière du genus Termo, qui végéte bien à 39-40 C°. On doit si le procurer dans un laboratoire bactériologique et le cultiver toujours pur." Here are four particulars: (1) a particular species; (2) a particular laboratory; (3) a particular temperature; (4) a particular cultivation. To avoid the confusion of species which Pawlowsky condemns, minute attention to these particulars is requisite; and no one who has not diligently tried can estimate the trouble of sterilising the suitable fluid and thus sowing that bacterium, and the number of times it is necessary after every precaution to go over and over the same ground to secure the culture of one species, and one species alone; and yet this point secured is only the beginning. To find the way out of the morass, too much attention cannot be paid to your direction—viz., "to afford to the organism support sufficient to cope with the bacterial hordes—to strengthen the powers of vital resistance." To secure this end, every means within my reach has been resorted to—nutritious food, tonic and strengthening medicines, daily inunctions of cod-liver oil, thorough ventilation of apartments, disinfectants, change of air, long continuance in the open air, and, latterly, the addition of the sulphuretted hydrogen rectal injections of Bergeon.

Now for results. Were I to send you a table or chart describing cases from the commencement to the conclusion, it would claim too much of your space. Suffice it to say, I can point to patients, not only in Liverpool, but in London and various other places—patients, the first account of whose symptoms would have left no ray of hope under the old methods of treatment; patients, now convalescent, who were pronounced to be in advanced phthisis by other physicians before bacterium termo and vital restoratives combined yielded the wished-for consummation. The desire that similar success may attend the efforts of others induces me to write thus. Truly the morass is a deep one. It is daily engulphing victims; but there is a way out, and some have securely walked it. To induce others to try the path you advocate is my apology for thus intruding on your valuable space. I am, Sirs, yours faithfully,

Liverpool, Aug. 23rd, 1887. W. H. LAMBART, M.D., F.R.C.S.

P.S.—It will give me pleasure to supply, free of charge, a pure cultivation to any medical brother who is anxious to give this treatment a fair trial.

THE PASTEUR COMMITTEE.

To the Editors of THE LANCET.

SIRS,—It may appear to be presumptuous on the part of so humble a member of the profession as I am to record my objection to the report of the committee appointed to inquire into the value of Pasteur's method. Nevertheless, I feel sure many will agree with me that the report is not satisfactory so far as the main question at issue is concerned. The committee appear to have experienced no difficulty in obtaining facilities for experimentally testing the *prophylactic value* of Pasteur's method, but what I think required to be shown in the same manner was whether it possessed *antidotal powers*. No attempt whatever seems to have been made to submit this matter to experimental test. It is true that the committee offer an opinion, but it is founded upon a critical analysis of Pasteur's cases. Even supposing the committee had met most of the principal objections to these cases, which, with all due deference to those eminent gentlemen, I may venture to say appears not to have been the case, their decision, however much entitled to respect, would, after all, only be a matter of opinion. I humbly submit that what is required to be tested by *experiment* is this: (*a*) Does inoculation with Pasteur's material prevent the occurrence of rabies after infection has taken place? (*b*) If so, what is the shortest period after infection that it does so?

Surely, in the absence of any experimental researches, the success of the method as a *remedial measure* is as far from *demonstration* as ever. I am, of course, assuming that the abstract contained in your issue of July 2nd, 1887, from which my information is obtained, accurately describes the report of the committee. More than twenty years' practical experience in investigations of a somewhat similar nature must be my respectful apology for this communication.

I am, Sirs, yours truly,

July 24th, 1887. VINCENT RICHARDS.

THE ORGANISMS OF MALARIA IN THE EAST.

To the Editors of THE LANCET.

SIRS,—It may interest some of your readers to hear that the micro-organisms of the blood supposed to be characteristic of the malarial infection have been found almost daily, for some time past, in two patients at present lodged in the clinical medical wards at the Jamsetjee Jejeebhoy Hospital, Bombay. They have been seen not only by myself in charge, but also by Professors Manser, Macdonald, and Burke. Stained preparations are preserved, and on careful comparison with the original descriptions of Professors Laveran, now of Paris, and Osler of Philadelphia, there seems to be no doubt of the identity of the "hæmatozoa of ague," sometimes at least, found in this part of India, with the organisms now known to prevail in parts of Europe, Africa, and America. Several interesting questions are raised by these recent observations, which can be fully answered only after a prolonged research. Hitherto, after a brief inquiry, it has not appeared to me that the pigmented monads, of either spheroidal or crescentic shape, are usually or distinctly present in the blood of patients affected with the common so-called "malarious remittent" fever of Bombay. Nor have they been detected in four pronounced examples of "malarial cachexia." According to my experience, genuine "ague" here is almost invariably an importation; and as regards the two positive instances above named, it happens that the quotidian and quartan types they represent were acquired outside the limits of the western Presidency. About two years since a fatal case of "pernicious" malarial fever came under my care from the N.W. frontier, and in it the blood was loaded with pigment in a striking degree. (*Vide* Trans. Med. and Phys. Soc., Bombay, No. 8, new series, 1886.)

I am, Sirs, your obedient servant,

Grant Med. Coll., Bombay, July 28th, 1887. H. V. CARTER.

THE STATE OF THE THAMES.

To the Editors of THE LANCET.

SIRS,—Perhaps you may not disdain to receive the congratulations of a simple engineer upon the correct views expressed on several occasions on the above subject by the leading medical journal, and your clear short article in your issue of to-day, the 13th inst., presents a striking contrast to a long and lame apology for chemical failure published by the *Engineer* newspaper on the 5th instant. This paper has devoted many leading articles during the last two years to the advocacy of an ingenious theory set up by Mr. Dibdin, chemist to the Metropolitan Board of Works, and has striven by faint praise of the permanent remedy recommended by Lord Bramwell's Royal Commission to exalt the supposed economy of experimenting with permanganate of soda. These articles contained internal evidence of acquaintance with unreported proceedings of the Board in pursuance of their chemist's advice, which led me to refer to them as "semi-official" in one or two letters published without disclaimer by the *Engineer;* but the article of the 5th inst. has "let the cat out of the bag," and shown that its editor sympathised with the Board so long only as its majority was content to follow the lead of their chemist, and proceeds to taunt the Board with "drifting" towards Canvey Island.

Now, I would ask your readers if it is right that a problem of such public importance as that now before the Metropolitan Board should be treated by anyone in such a spirit as seems to be indicated by the word "drifting," and still more by the following further quotation from the *Engineer* of the 5th inst.:—"Without really intending it, the Board is now playing into the hands of Mr. Bailey-Denton and his colleague."

I am, Sirs, your obedient servant,

ALFRED S. JONES, Assoc. M.Inst. C.E.

Wrexham, Aug. 13th, 1887.

THE UNCONSCIOUSNESS OF LIPSKI.

To the Editors of THE LANCET.

SIRS,—As I gave evidence on the trial that the unconsciousness of Lipski might be caused by mental perturbation, and you have admitted to your columns some very strong remarks thereon, I trust, in fairness to me, you will admit this letter. The positive assertions of your correspondent in your issue of the 20th inst. (page 378) are mistakes, because Lipski in his confession says he *fainted* when he heard the people coming up the stairs. As to the abrasions on the elbows, about which so much has been said, they were caused by the mob seizing him by his bare arms, and trying to drag him from the custody of the two policemen as they were taking him up Batty-street. The abrasions were not there when I found him under the bed. The police just managed to get him as far as my surgery, and took him in for safety. I pointed out to the police the abrasions that the crowd had made. In the interests of persons who, like Simon and Schmuss, in the future may be falsely accused of murder, I hope your correspondent will secure Lipski's case a place "in the records of forensic medicine," so that others may not, like him, seek "in vain for anything that would lend support to such a view" as I took.

Commercial-road, E., Aug. 24th, 1887. J. WILLIAM KAY.

SICILY.

(From our Correspondent.)

THE *Gazzetta Ufficiale* puts it beyond question that in the general stampede from the cholera-stricken communes in this island not only the civil functionaries joined, but also, I regret to say, not a few medical practitioners and pharmacists. These deserters from their posts have each and all been subjected to severe marks of Government displeasure, professors having been deprived of their chairs and divisional surgeons of their appointments. As a foil, however, to this deplorable exhibition of moral cowardice, it is fair to mention that physicians and surgeons from all parts of the island and the peninsula have been besieging the Ministry of the Interior to obtain permission to serve in the cholera-visited localities, the majority of the applicants being young men eager to atone, even by their lives, for the defection of their demoralised brethren. Examples of the stuff of which these medical youths are made might easily be cited, and one of them, whose tragic end absolves me from the duty of withholding his name, I cannot refrain from mentioning. Vincenzo Rapisardo, Sicilian by birth and a medical student of five years' standing, lost no time in enrolling himself among the volunteers in the cholera campaign. Catania was the place to which he was told off, and he worked night and day in relieving patients and in helping forward the sanitary works. Meanwhile the enemy had appeared in force at Paterno, his native village, where his family were still residing. Most of the functionaries of the place, civil as well as medical, had taken flight, when Rapisardo appeared on the scene. He at once took upon himself the work of half-a-dozen hands, visiting the sick, compounding medicines, performing every kind of hygienic duty, and keeping, by constant corrrespondence, the officials at headquarters cognisant of the movements of the disease. Day and night he laboured at his wellnigh solitary task, till he, too, was struck down by the malady, which his strength was too far gone to resist. He died on the 5th inst., and a few days afterwards was followed to the grave by his mother and sister.

An assistant of Professor Bizzozero of Turin is another of these young medical heroes, and him, too, I may mention, as the Government have made public recognition of his work. Dr. Canalis, whose name has before now appeared in your columns in connexion with certain departments of physiological research, received from Signor Crispi, then Minister of the Interior, now Premier of Italy, the mandate to go to Catania directly the cholera had declared itself. To Catania accordingly he went, and in concert with Signor Noghera, official inspector of sanitary works, he organised a thorough system of medical relief and hygienic precautions, exposing himself in a hundred different ways to the malady wherever it was most pronounced, and not leaving the spot until he had made return to it unnecessary. A friend who has lately seen him informs me that what Canalis found more disheartening than the stubbornness of the epidemic was the cowardice of the local authorities and the ignorance of the multitude. He has prepared, and is, I am told, about to publish, an official report of his experiences, and he certainly will not spare those who have failed in their duty, or have been found wanting in common humanity. Moral paralysis is hardly the word for the inaction of the communal functionaries, who, according to Dr. Canalis, allowed from twenty to thirty cases a day to occur almost at their doors, and who were too frightened to inform themselves of the symptoms and to report the same to headquarters. And what is to be done with communes like many of which Dr. Canalis has just had experience?—communes of 20,000 inhabitants, where the pigs patrol the streets and where the population threaten to rise *en masse* and stone the sanitary inspectors who dare to close notoriously infected wells!

Servius, whose commentary on Virgil contains so much information on the life of classical antiquity, tells us that at Massilia (the modern Marseilles), whenever a pestilence appeared, one of the poor offered himself to his fellow-citizens on these conditions; he was to be kept and daintily fed at the public expense for a whole year, and after that he was to be arrayed in verbena and sacrificial vestments and carried through the streets amid the execrations of the people—to make himself, as it were, the embodiment of all the maledictions of the townsfolk—by whom he was finally to be precipitated into the sea. This heathen custom, however, is intelligible and even rational, compared with the madness without method that assails Southern Italy in cholera times. At Risposta, in this island, the other day the countryfolk rose and murdered a man whom they suspected of secretly "propagating the malady." In other Sicilian localities the people openly accuse their priests of distributing "the poison," and post their names as worthy of assassination; and why? Because, amid the general sickness and mortality few or none of these spiritual men have been taken ill or died! On the 14th inst., shortly after midnight, the postal diligence plying between Caltagirone and Valsavoia, had reached a lonely township in the Commune of Granmichele, when it was suddenly stopped by twelve individuals armed with rifles. They presented their firearms at the windows, and commanded the coachman and the guard to deliver the post-bags at once. These they opened, removing the letters and newspapers and certain articles which find hospitality in the post-bags for the use of the military. They touched no other object of value, and even returned the guard his watch, which he had voluntarily given up to them. Mysterious brigands these! But it now appears that they were not gentlemen of the highway at all, but honest countryfolk who thought they were doing a sanitary service by stopping the conveyance of cholera-infected correspondence between their own and the surrounding communes.

Oh for the day when, in the memorable words of Sir James Coxe, the late Scottish Commissioner in Lunacy, every citizen, not in Sicily only, but much nearer home, will be taught at school to be "the intelligent custodian of his own health." Southern Italy has more than her proper share of this educational leeway to make up, but now she is more likely to start fair in that wholesome direction than she has hitherto been—her leading stateman, Signor Crispi, himself the representative in the Italian Chamber of one of the divisions of this city, and now Prime Minister of the kingdom, being an enthusiastic sanitarian, one on whom the mantle of Bertani has worthily fallen, and who will make his term of office memorable by a vigorous carrying into effect of the new "Codice igienico." Under his auspices, reinforced, too, by his reassuring presence, Palermo has suffered but lightly from this return of her old enemy. The municipality, I may add, have shown praiseworthy energy in seconding their distinguished townsman's initiative, and are at this moment organising depôts where good bread and sound meat can be sold to the very poor at prices within the reach of all.

Palermo, Aug. 20th.

AT an inquest recently held at Widnes on the body of a young man who died in consequence of injuries received in a game of football, the jury returned a verdict of accidental death.

MANCHESTER.

(From our own Correspondent.)

VICTORIA UNIVERSITY.

At the late examinations in medicine there were thirty-two successful candidates, twenty-six of whom were students from Owens College, and six from University College, Liverpool. At the Preliminary Scientific five Owens College students and one from University College passed in the first division, and five University and seven Owens men in the second division. At the Intermediate, four Owens men passed in the first division and five in the second. At the Final Examination, Part 1, there were three successful candidates (all Owens College men), and in Part 2 of the Final two from the same College. Arrangements have been made for a continuation of the lectures during the coming winter on the model of the "Cambridge University Extension" lectures. Professor Munro will deliver one course at Withington on the English Constitution, and Professor Boyd Dawkins another on Evolution and Geology.

THE IRWELL AND SEWAGE.

Mr. Walmsley continues to draw attention in the public press by a series of letters to the disgraceful condition of the river Irwell from sewage contamination, urging that all offenders should promptly and thoroughly be brought to book. It is to be feared that one of the greatest sinners is the city of Manchester, and until we get our new sewage scheme in operation little improvement can be looked for. In a letter to-day Mr. Walmsley states that the death-rates of those districts of the borough which abut on the river varies from 25 to upwards of 42 per 1000 per annum, a statement of serious import.

WATER SUPPLY.

Notwithstanding the late acceptable rain, we are still on a limited water supply, and so urgent had the matter become that the corporation were seriously directing their attention to an additional supply from subterranean sources. At some coalpits near Moston, which were flooded a few years ago and rendered unworkable, a quantity of about 4,000,000 gallons is available, and, after examination, has been declared of good quality, though rather hard for manufacturing purposes.

SALFORD FEVER HOSPITAL AND INFECTIOUS DISEASES.

The acquirement of a site for the new Fever Hospital required by the borough of Salford appears to be a matter of some difficulty. The land last proposed to be used for this purpose has now been objected to on account of its proximity to the workhouse hospital, in addition to the objections made by the residents in the neighbourhood of Hope. The epidemic of measles appears now to be subsiding, but scarlet fever still continues very prevalent, notwithstanding the large number of cases sent to hospital, the wards of both fever hospitals being very full of scarlet fever patients. The effect on the death-rate by the large number of fatal cases of measles was apparently very marked last quarter. Manchester occupies the unenviable position of having the highest death-rate in the country for the three months ending July 2nd, being no less than 30 per 1000 per year.

OPEN SPACES.

A wise and philanthropic course has been taken by the dean and canons, who have promised a large piece of land in the populous and increasing district of Newton Heath. The cathedral authorities are possessed of much land in this manufacturing suburb, and while they will be doing a good thing for the dwellers, they will probably lose but little pecuniarily, as it is usually found that the land adjoining parks and open spaces acquires an enhanced value. The Manchester and Salford Sanitary Association have issued their tenth volume of Health Lectures for the People, comprising the last course delivered during the winter 1886-87.

Mr. de Jong, the resident surgeon at the Jubilee Exhibition, has had a considerable number of cases pass through his hands during the past month. On Saturday last a serious case of injury from burns occurred by the careless habit of throwing down lighted matches in the grounds. A lady's dress was thus set on fire, and she was much burnt before the flames were extinguished.

Aug. 23rd.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

SOUTH SHIELDS.

DR. A. CAMPBELL MONRO, medical officer of health for South Shields, has issued his annual report, which is of a satisfactory nature, and shows that during the past year the death-rate was 20·5 per 1000, which is the lowest death-rate in the borough, with two exceptions, since 1872. After pointing out the difficulty of dealing with zymotic cases on account of the small proportion of cases notified to him, Dr. Monro shows that, of 137 persons admitted to the Infectious Hospital, 129 recovered. He points out how the corporation, in converting a large area of waste ground, had made it into a Marine Park second to none in the kingdom. This, with the provision of salt water baths on the most modern principles, had made South Shields proverbially a healthy town and a desirable seaside resort; but he, at the same time, urges on the authorities the view that while the sea side of the town is well provided with breathing and recreation space, the west and crowded end requires their attention before it is built up; for to aged persons and younger children the Marine Park is practically inaccessible. There can be no doubt that "the folk of Shields" possess sufficient public spirit to carry out Dr. Monro's valuable suggestion. At the late annual meeting of the Ingham Infirmary, South Shields, the deepest regret was expressed at the somewhat sudden death of Alderman Williamson, who had laid the foundation stone of the present buildings in May, 1871, and who from that time until his death was president of the hospital, having contributed the munificent sum of over £3000 towards the building, and furnishing funds. It was resolved to call No. 1 ward the John Williamson Ward in future. The Hospital Sunday and Saturday fund showed a small increase over the previous year. It has been decided to erect a monument in South Shields to the lifeboat inventors, Wouldhave and Greathead.

NEWCASTLE-ON-TYNE DISPENSARY.

The vacancy for the honorary physicianship of the Newcastle Dispensary has been filled up, Dr. G. Armstrong Atkinson, after a spirited contest, having been elected. Dr. Atkinson is a brother-in-law of the late Dr. Holland, whose death caused the vacancy. Dr. Atkinson was late assistant to the Professor of Materia Medica and Demonstrator at Edinburgh, and is a distinguished graduate of that University.

A CAUTION.

A successful female swindler has been operating in Newcastle, and the following is her *modus operandi*. Having somehow become aware that a medical man and his family were travelling, she represented to the servant that she was a great friend of her master, and a surgeon's daughter herself; being from her own home in Barnsley, owing to the illness of her mother, she was hastily summoned home, but, being confused and in great anxiety, she had, in changing trains, lost her bag and purse, and was without the means of going home. The servant believed her story, and recommended her to a kind lady patient of her master, who also believed her story, entertained her, and gave her a £5 note and a warm shawl to proceed home. As she will no doubt try to repeat the trick elsewhere, it is as well to say she is about twenty years of age, with good manners and address.

Newcastle-on-Tyne, August 30th.

DUBLIN.

(From our own Correspondent.)

LUNACY IN IRELAND.

FROM the thirty-sixth Annual Report of Lunatic Asylums in Ireland, it appears that insanity throughout Ireland is not only not on the decline, but relatively to a decreasing population quite the reverse, there being a registered excess of 283 at the close of 1886 as compared with the preceding year. With regard to the condition of the 10,077 patients in district asylums on Jan. 1st of the present year, the probably curable, or rather those who admit of hope of

recovery, were estimated at 2223, and the incurable at 7779, each class needing an equal professional care and domestic supervision. Owing to a better and more generous treatment of the insane, their longevity is notably increased, so that additional provision has to be made, as shown by the progressive enlargement of public asylums. Twelve years ago the accommodation in them was limited to 7000 beds, which has been increased by over 2600, and even now there is a marked deficiency. During the past year 1831 admissions of patients were effected through magisterial warrants, a method which the inspectors consider as unsatisfactory, and to obviate it they suggest that the Act should be so amended as to impose on the relieving officers in Poor-law divisions an obligation to report on all cases of insanity, so as to have the patients visited professionally and taken charge of in poor-houses until remitted in due form to the asylum of the district. In a total aggregate of 12,618 patients under treatment during the year, 894 deaths took place. The general mortality was owing to pulmonary diseases in nearly a third, or 294 cases; to cerebral affections in 244; debility and old age, 160; diseases of the heart and circulatory system, 37; abdominal derangements, 83; and the remainder to febrile, scrofulous, and cutaneous maladies of no marked description. The cost per head of district asylum patients last year was £20 19*s.* 3*d.*, as contrasted with £21 19*s.* 5*d.* the previous year.

THE PREVALENCE OF OPHTHALMIA IN THE CORK WORKHOUSE.

Dr. O'Farrell, Local Government Board inspector, at a meeting of the Cork guardians last week, reported as to the prevalence of ophthalmia among the workhouse children. He remarks that owing to a great extent to the excellent measures recommended by Dr. Sandford, the outbreak is subsiding; but at no time was the epidemic so severe in its intensity, or in the number of those attacked, as stated in the daily press. He points out that owing to the unhygienic surroundings of the poorer classes, to their overcrowded and smoky cabins, and their impoverished dietary in the past, ophthalmia has at all times been extensively common in this country; and no doubt this tendency to the chronic and milder forms of eye disease has been transmitted from generation to generation. As regards the measures to be adopted to get rid of the present outbreak of ophthalmia, Dr. O'Farrell suggests the appointment of a small committee to consider, in conjuction with the medical officers, how Dr. Sandford's suggestions can be carried into effect, as well as any recommendations which he might make in his report to the Local Government Board. One of the guardians had kindly offered to place a house at Passage West at the disposal of the board for the purposes of isolation, and if the house and situation were suitable, the matter might be referred to the committee for their consideration.

THE DUBLIN HOSPITALS BILL.

It cannot be a matter of regret to all unprejudiced parties to learn that this Bill has been blocked by Mr. Macartney, M.P. The provisions of the proposed Bill, and the constitution of the Board of Management, &c., were so one-sided and unjust, that if carried out, they would have proved so injurious to several well-conducted charitable institutions in this city, that the result above mentioned must be regarded as a subject of congratulation.

Several cases of small-pox have occurred in the town of Drogheda and neighbouring district, and up to the present time one death has taken place.

THE SALE OF DRINK IN FRANCE.—The annual return upon this subject, published in the *Bulletin* of the Ministry of Finance, states that there is a tavern to every 46 inhabitants in the department of the Nord, one to every 55 inhabitants in the Pas de Calais, one to 58 in the Ardennes, one to 60 in the Somme, one to 67 in the Aisne, and one to 75 in the Eure. These are all in the north of France, whereas the five departments in which the taverns and wine-shops are the least numerous, proportionately to the population, are all in the south—viz., the Gers with one in 187, the Vaucluse with one in 159, the Savoie with one in 144, the Hautes-Alpes with one in 143, and the Charente-Inférieure with one in 143. Altogether, there is a tavern to every 95 of the inhabitants throughout France, this representing an increase of more than 11 per cent. within the last six years.

Obituary.

PROFESSOR ADOLF PANSCH.

A DEPLORABLY sudden death by drowning in Kiel Bay on the 14th inst. has deprived German science of one of its ablest representatives. On the morning of that day Dr. Pansch started with his son (a boy of eleven years of age) by steamer to Laboe, to bring back to Keil his sailing boat, with which a few days before he had taken part in the Laboe regatta. Shortly before embarking on the return voyage he complained of feeling unwell, but, nevertheless, set sail with his son about 11.30 A.M. The course of the little craft was sufficiently smooth till between Möltenort and Heikendorf she was struck by a heavy squall and capsized. Dr. Pansch had time to fling the rudder to his son and utter the words "*Rette dich!*" ("Save yourself!") and then sank. Known to be an expert swimmer, and quite equal to finding his way to the shore, he is thought to have died at once from the shock, having for years been a sufferer from organic lesion of the heart. His body was afterwards recovered by one of the eight boats that set out in quest of him. His son had shortly before been saved, though in an extremely exhausted state, by a passing steamer.

Adolf Pansch was born on March 2nd, 1841. From 1860 to 1864 he was a student of natural history and medicine at the Universities of Berlin, Heidelberg, and Halle, at which last-named school he graduated as Ph.D. Having gone to Kiel in 1865, he was there appointed prosector in room of Dr. Hensen, who had just been elected Professor Extraordinary of Physiology. In the following year he passed successfully the examination for Doctor in Medicine, and thereafter qualified as *privat-docent*. In 1876 he was elected Professor Extraordinary of Anatomy, but still kept his favourite post of prosector, and laid the University of Keil under signal obligations by the skill and zeal with which he continued to attract *alumni* to the school. For twenty-one years his popularity never flagged, while the number of his pupils steadily rose.

Among his contributions to the literature of his special department may be mentioned his "Grundriss der Anatomie des Menschen" (Berlin 1879-81); and his "Anatomische Vorlesungen für Aerzte und ältere Studierende, Theil I.' (Berlin, 1884). Besides these works, he was a steady and esteemed contributor to the professional journals; while to a still more extended circle he was favourably known for the part he took in the Second German Expedition to the North Pole (1869-70), to the scientific report of which (1873) he contributed many valuable observations.

Medical News.

NAVAL MEDICAL SERVICE.—The following gentlemen who competed at the examination recently held at Burlington House for appointments as Surgeons in the Royal Navy have been granted commissions:—

	Marks.		Marks.
Bradley, James	3180	Woodwright, C. S.	2880
Hewlett, George	2975	O'Brien, Michael	2820
Waters, Geo. Alex.	2975	Shand, Jonathan	2780
Stott, Wm. G.	2960	Whitelegge, Wm. A. ...	2710

INDIAN MEDICAL SERVICE.—The following is a list of candidates for appointments in this Service who were successful at the competitive examination held at Burlington House on the 8th inst. and following days. Of the 59 candidates who competed for twenty-three appointments, 55 were reported qualified:—

	Marks.		Marks.
Roberts, A. E.	3380	Buchanan, W. J.	2960
Macwatt, R. C.	3165	Close, J. K., M.D.	2950
Nott, A. H.	3160	Dewes, F. J.	2930
Lamont, J. C.	3145	Brabazon, H. M.	2910
Woodwright, W. H. B. ...	3120	Griffith, J. H.	2895
Coleman, A.	3040	Ingham, W. H. M.	2890
White, W. W.	3050	Pinta, J. O.	2890
Maynard, F. P.	3045	Holt, J.	2880
Lane, D. T.	3020	Jones, J. L. T.	2875
Davidson, D. M.	2990	Jennings, W. H.	2820
Macnamara, J. M., M.D.	2990	Stewart, T. W.	2780
Strickland, P. C. H. ...	2980		

COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND.—The undernamed have passed the Final Examination under the Conjoint Examining Board:—

J. Abbott, A. Austin, B. Beamish, A. Bewley, T. Cohen, S. Cox, W. Cremin, B. Cummings, R. Flynn, E. Frazer, R. Glynn. W. Graves, J. Harty, R. Hewitt, R. Jones, P. Keane, C. Lyons. J. Mc Naboe, J. Mannix, J. Moore, R. Pennyfeather, M. Shanley, W. T. Steele, and J. Stewart.

THE annual Hospital Sunday collections on behalf of the Worthing Infirmary were made on the 14th inst.

Two deaths from heat occurred in the City of London on the 22nd inst.

A SUM of about £600 has been received for the Walter Moxon Memorial. The subscription list closes on the 31st inst.

THE Edinburgh Medical Missionary Society received as year its largest income, and started this year with its largest number of students—twenty-three,—of whom six are missionaries' sons, one of them the grandson of Dr. Moffat.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The name of Mr. A. Carter was omitted from the list of candidates, recently published by us, who have passed the final examination for the licence of this College.

THE annual meeting of the subscribers to the North Devon Infirmary was held at Barnstaple on the 16th inst., when satisfactory financial and general reports were presented by the committee and adopted.

SUPERANNUATION ALLOWANCE.—Dr. Charles P. Stevens, late medical officer for the Biggleswade Union, has, after forty-five years' service, been granted a retiring allowance of £25 per annum.

SPECIAL efforts are at present being made by the Health Department of the city of New York, to prevent, as far as possible, the excessive overcrowding of tenement houses, which is the source of so much disease and mortality.

THE 21st inst. was the day set apart by the Barnsley Hospital Sunday Committee, which of late years has provided by collections and otherwise half the funds for the Beckett Hospital, for the annual festival. The proceedings were largely attended.

AT a special general meeting of the governors of the Sheffield Infirmary, held on the 19th inst., it was unanimously decided to appoint two additional surgeons and two assistant physicians, the senior staff of physicians being reduced from three to two.

NEARLY all the guests, twenty in number, at a wedding party recently held at Winsford, Cheshire, have been attacked with illness, one of the cases proving fatal. An analysis is being made of the contents of a dish of mutton suspected to contain poison.

NEW DRAINAGE WORKS AT ACTON.—The main drainage works at Acton, constructed at a cost of £75,000, were formally opened on the 25th inst. The process of clarification adopted is that which dispenses with the use of lime as a precipitant and employs in its place magnetic ferrous carbon.

THE FRENCH COMMISSION ON FIRES IN THEATRES.—M. Emile Trélat has reported on behalf of the French subcommission on fires in theatres strongly in favour of the use of chemicals rendering the stage and all its contents uninflammable, stating that the expense will not be so great as is imagined, and should fall on theatre-goers, who cannot grudge an extra charge for safety.

UNIVERSITY OF CAMBRIDGE.—From the Calendar of this University, which has just been issued, it appears that the total number of members of the University whose names are retained on the College books, is 12,546. Of these 6527 are members of the Senate—that is, have taken the degree of M.A.; 3040 are graduates under the status of M.A., and 2979 are undergraduates. The total number of matriculations during the past academical year was 1012, while in the preceding year the number was 950, showing an increase of 62.

THE Government of Peru has invited the Republics of Central and South America to co-operate in a Sanitary Congress to be held in Lima on Nov. 1st.

THE MIDDLESEX HOSPITAL.—A great demonstration of temperance and friendly societies was held on the 21st inst., in aid of the funds of the Middlesex Hospital. The institution has been closed since the beginning of July for cleansing and repairs, and is announced to be reopened in the course of a few weeks.

BEQUESTS.—The late Lady Caroline Emily Nevill has bequeathed £100 each to the Brompton Hospital for Consumption, the Royal Hospital for Incurables, and the Maidstone Infirmary.—The late Mr. John Floyer of West Stafford, near Dorchester, has bequeathed £100 to the County Hospital, Dorchester.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—The following have been elected officers of this Society for the current year:—President: Mr. F. W. Salzmann. Vice-presidents: Dr. W. Withers Moore, and Mr. E. Noble Edwards. Treasurer: Mr. Hodgson. Hon. Secretaries: Mr. Cresswell Baber and Dr. Whittle. Honorary Librarian: Dr. Gasquet.

THE BRITISH ASSOCIATION.—At the meeting of the members of this Association, to be held at Manchester next week, amongst other papers to be read are one by Professor Schäfer, on the Present Aspect of the Cell Theory; and one by Professor Ray Lankester, on the question, Are acquired Characters Hereditary? The guarantee fund for the meeting exceeds £10,000.

RABIES IN RICHMOND PARK.—It has been reported to the Richmond bench of magistrates by the official veterinary inspector of the district that during the past week no fewer than nine deer suffering from rabies in Richmond Park have been slaughtered. This is the largest number yet reported in one single week. Nearly the whole of the herd of deer, among which the outbreak occurred some months ago, have now been exterminated.

PROPOSED SMALL-POX HOSPITAL FOR SHEFFIELD.—At a specially convened meeting of the committee of the Sheffield Borough Hospital on the 19th inst., it was decided that the accommodation for small-pox patients at that institution is not sufficient during the prevalence which now prevails, and that it is desirable that more should be provided. This may almost be regarded as the first step towards the establishing of a small-pox hospital outside the town.

POISONOUS FISH.—In the exhibition recently opened at Havre there is an interesting collection of specimens of poisonous fishes. Some are poisonous when eaten; others are merely venomous. Among the first are many Sparoids, a Tetrodon, and many *Clupea*, which are abundant near the Cape of Good Hope. In the Japan Sea is found a very peculiar Tetrodon, which is sometimes used as a means of suicide. It brings on sensations like those produced by morphia, and then death.

LONGEVITY IN ALGERIA.—A list of aged people living in Algeria has just been published, according to which there are now in Blidah an Arab 108 years old and a Moorish woman aged 110. At Chercell, also, there is a Moorish woman who is 102 years old, and whose brother died a short time ago at the age of 110. Then, at Alger, there are two Frenchmen, each 100; a Spaniard, 99; two Poles, each 98; and two Arab-Jews, both of whom count their hundred winters.

THE REPORTED DEATH OF MR. H. M. STANLEY.—A letter has been received from Surgeon Thomas H. Parke, A.M.S., who is the only medical man accompanying Mr. Stanley's expedition for the relief of Emin Pacha, dated Aruwimi River, June 20th, 1887, stating that Mr. Stanley and the European officers accompanying him are all quite well. Mr. Stanley was then forming an entrenched camp, two days' journey up the river, whence, after eight days for arrangements, they were to make a forced march of 400 miles of difficult, unexplored country to Wadelai, to meet Emin Pacha. This, of course, allays anxiety about the reported death of Mr. Stanley, announced by a telegram dated June 17th last.

MEDICAL NOTES IN PARLIAMENT.

Rabies in Windsor Park.

In the House of Commons on the 22nd inst., **Mr. Labouchere** asked whether the newly-issued regulation that all dogs taken into Windsor Park were to be "muzzled or led" was issued with a view to protect the game, or in consequence of an epidemic among the deer, and, if the latter, how many deer had died or been attacked with rabies; and under whose authority and under what Act of Parliament the Ranger or Deputy Ranger was empowered to prevent the free use of the park and forest roads to the public and their dogs.—**Mr. Jackson**, in reply, stated that owing to the outbreak of rabies among the deer in Richmond Park, resulting in the loss of a large number, it was considered advisable to take steps to guard against any similar outbreak in Windsor Park, and with that view the notice referred to was issued by his Royal Highness the Ranger. No deer had died in Windsor Park of rabies, but it was known that at least twelve deer were worried and killed by dogs there before the notice referred to was issued. The Ranger was appointed by Her Majesty and the Deputy Ranger by the Ranger. They derive their powers by virtue of their appointments, and not under any Act of Parliament or from the Commissioners of Woods.

Vaccination.

On the 23rd inst., in reply to **Mr. Picton**, **Mr. Ritchie** stated that no report was made to the Local Government Board by Mr. Hutchinson about the year 1877 with reference to patients stated to be suffering from syphilis through vaccination, and so far as the Board are aware no report was made by him at the request of Dr. Seaton. The Board believe, however, that a report was made in 1871 to the Royal Medical and Chirurgical Society by Mr. Hutchinson, but that report, as stated by him before the Vaccination Committee in 1871, was made on the application of the medical man in attendance on the cases, and not of Dr. Seaton. The Board are aware of the cases of vaccino-syphilis which are referred to in Mr. Hutchinson's publication. Three out of the six cases referred to in the question as a "long series" related to single cases, and the most recent of any of the occurrences related took place between ten and eleven years ago. The Board have the authority of Mr. Hutchinson for saying that though he has been diligently on the look out for similar cases during the ten years' interval he has failed to meet with any. In his recent work, published this year, on the subject, Mr. Hutchinson says:—"There certainly cannot be any difficulty under ordinary circumstances in procuring vaccinifers which are absolutely free from risk." Mr. Hutchinson's experience was in these respects entirely confirmatory of that of the Board, which is to the effect that although three-quarters of a million of children have been vaccinated annually for many years past not a case of the communication of the disease in question by vaccination has come under their observation.

The Coroners Bill.

Mr. W. H. Smith, replying to **Mr. Bryce**, said the Coroners Bill was a measure to consolidate the existing law, and bring it into harmony with the practice. It would undoubtedly be a misfortune if the labour which had been expended on this Bill should be thrown away, and the Government would adopt the suggestion of the hon. Member not to drop the Bill, in the hope that as it was beneficial to the public, and involved no political question of any kind, it might be passed this session.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADKINS, GEORGE, L.R.C.P. Lond., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health to the Plympton St. Mary Union Rural Sanitary Authority, till July 25th, 1890.

ANDERSON, JAMES KEITH, M.D.Ed., L.R.C.S.Ed., has been appointed Medical Attendant to the Arbroath Infirmary.

ATKINSON, G. ARMSTRONG, M.D.Ed., has been appointed Honorary Physician to the Newcastle-upon-Tyne Dispensary, vice Lucius Holland, M.D.Aber., deceased.

BARRON, HUNTER, M.D., M.R.C.S., has been appointed Surgeon to the S Division, Metropolitan Police (Finchley Station), vice J. Hochee, M.R.C.S., resigned.

BREDIN, HOWARD A., M.R.C.S., L.S.A., has been appointed Medical Officer for the Eastham District of the Wirral Union.

BROWNE, J. W., M.D.Q.U.I., M.R.C.S., has been reappointed Attending Surgeon to the Belfast Royal Hospital.

BYERS, JOHN W., M.D., M.Ch. Q.U.I., has been reappointed Attending Physician for Diseases of Women to the Belfast Royal Hospital.

COLLIER, JOSEPH, M.B., B.S., F.R.C.S.Eng., has been appointed Assistant Surgeon to the General Hospital for Sick Children, Pendlebury, Manchester.

FITZGERALD, JOHN R., L.R.C.S.I., has been appointed Medical Officer for the Stotfold District of the Biggleswade Union.

GWYNNE-HUGHES D., L.R.C.P., L.R.C.S.Ed., has been appointed Resident Medical Officer to the Sydney Hospital, vice R. Westrum, M.D., resigned.

KENNEIR, FRANCIS W. B., M.R.C.S., L.S.A., has been appointed Medical Officer for the Fourth District of the Horsham Union.

LAING, DAVID, M.D., C.M.Edin., has been appointed Attending Surgeon to the Arbroath Infirmary.

LINDSAY, JAMES ALEX., M.D., M.Ch. Roy. Univ. Irel., has been reappointed Assistant Physician (extern department) to the Belfast Royal Hospital.

MONRO, WILLIAM, M.D.St.And., L.R.C.S.Ed., has been reappointed Surgeon to the Arbroath Infirmary.

MORRIS, COLIN DWIGHT, L.R.C.P.Lond., M.R.C.S., L.S.A., has been appointed Surgeon to the Bedfont Division of the Metropolitan Police, Medical Officer to the Fulham Provident Dispensary, and Surgeon to the Bedfont and Hatton Mutual Benefit Societies.

NELSON, JOSEPH, M.D.Q.U.I., L.R.C.S.I., has been reappointed Attending Surgeon to the Belfast Royal Hospital.

O'CONOR, JOHN, M.B., B.Ch. T.C.D., has been elected House-Surgeon to the Royal Portsmouth, Portsea, and Gosport Hospital, vice J. P. Williams Freeman, M.B., resigned.

POGSON, W., F.R.C.S., L.R.C.P.Ed., has been reappointed Medical Officer of Health for the Leeds Rural Sanitary Authority.

ROSS, RICHARD, M.D.St.And., L.R.C.S.I., has been reappointed Attending Physician to the Belfast Royal Hospital.

RUSSELL, JOHN, M.B., C.M.Aber., has been appointed Medical Attendant to the Arbroath Infirmary.

SUMPTER, B. G., M.B.Dunelm, M.R.C.S., has been appointed House-Surgeon to the West Norfolk and Lynn Hospital, King's Lynn.

VALPY, CHAS. EDWARD, B.A., Merton College, Oxford, M.R.C.S., has been appointed Senior House-Surgeon to the Cancer Hospital, Fulham, vice H. G. Shaw, resigned.

WILLIAMS, JOHN HENRY, M.R.C.S., L.S.A., has been appointed Medical Officer of Health for the Llanybyther Division of the Lampeter Rural Sanitary District, vice Davies, resigned.

WINN, JOHN, L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer of Health for the Fylde Rural Sanitary District, Lancashire.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

ASHFORD FRIENDLY SOCIETIES AND PUBLIC MEDICAL ASSOCIATION.—Out-door Assistant. Salary £100 per annum.

BIRMINGHAM GENERAL HOSPITAL.—House Governor. Salary £300 a year, with board and apartments.

DENBIGHSHIRE INFIRMARY, Denbigh.—House-Surgeon. Salary to commence at £35 per annum, with board, residence, and washing in the house.

HOSPITAL FOR WOMEN, Soho-square, W.—Two Out-patient Clinical Assistants. Fee for course of three months 5 guineas.

JARROW-ON-TYNE MEMORIAL HOSPITAL.—House-Surgeon. Salary to commence at £130 per annum, with board and residence.

MAIDSTONE UNION.—District Medical Officer and Public Vaccinator. Salary as Medical Officer, exclusive of fees, £80 per annum.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer. Salary £150 per annum, with board and residence.

ROYAL BERKS HOSPITAL, Reading.—Assistant House-Surgeon. Board and lodging, but no salary.

ST. PETER'S HOSPITAL FOR STONE, Henrietta-street, Covent-garden.—House-Surgeon. Honorarium (for six months) 25 guineas, board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

EVANS.—On the 23rd inst., at Denmark Lodge, Clapham-common, the wife of Lewis Evans, L.F.P.S.Glas., L.R.C.P.Ed., of a daughter.

HENDERSON.—On the 18th inst., at 6, Hampstead-lane, Highgate, the wife of A. Milne Henderson, M.D., of a son.

OWEN.—On the 24th inst., at Seymour-street, Portman-square, the wife of Edmund Owen, F.R.C.S., of a daughter.

STEER.—On the 12th inst., at Sportsman's Hall, Stewart Town, Jamaica, the wife of A. W. Thorburn Steer, M.R.C.S., L.R.C.P.Lond., of a daughter.

VERRALL.—On the 17th inst., at Montpellier-road, Brighton, the wife of T. Jenner Verrall, M.R.C.S., L.R.C.P., of a daughter.

WILKIE.—On the 19th inst., at Simla, the wife of David Wilkie, M.B., C.M.Glas., I.M.S., of a daughter.

MARRIAGES.

FAYLE—LEECH.—On the 20th inst., at Long Ashton Church, Robert J. L. Fayle, L.K.Q.C.P.I., L.R.C.S.I., Surgeon, Army Medical Staff, Secunderabad, India, to Mary, second daughter of Joseph Leech, of Leigh Woods, Clifton.

GILBERT—WOODS.—On the 18th inst., at St. Stephen's, Twickenham, Clarence Edwin Lloyd Gilbert, L.K.Q.C.P.I., M.R.C.S., Indian Medical Service, to Isabella Lilian, second daughter of Lieut.-Col. J. A. Woods, late Royal Dublin Fusiliers.

KERSHAW.—On the 16th inst., at the West Derby Parish Church, Liverpool, by the Rev. R. J. Rolfe, John Cawthron Kershaw, M.R.C.S.B., L.R.C.P.Ed., of New Wortley, Leeds, to Jane, only daughter of W. A. Punshon, Esq., of Liverpool. (No cards.)

DEATH.

TREND.—On the 13th inst., at Potton, Beds (very suddenly), Henry Gristock Trend, L.R.C.P., late of Highbury, aged 55.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 25th, 1887.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Aug. 19	29·95	N.	55	52	109	68	49	...	Bright
,, 20	29·88	N.W.	55	53	95	65	53	·05	Overcast
,, 21	30·06	N.W.	59	55	104	71	51	·08	Cloudy
,, 22	30·10	W.	60	55	117	77	52	...	Hazy
,, 23	30·12	W.	63	56	111	77	53	...	Hazy
,, 24	30·03	S.E.	66	60	103	79	59	...	Hazy
,, 25	29·98	S.E.	63	60	110	82	58	...	Hazy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

THE STUDENTS' NUMBER OF "THE LANCET" will be published on Saturday next, Sept. 3rd. Those gentlemen holding official situations connected with medical institutions in the United Kingdom who have not yet forwarded the necessary information to our Office for publication in that number are earnestly requested to send it *without the delay of a single post.*

BACTERIA IN HAIL.

W. J. C. (Birmingham).—Prof. L. Maggi of Pavia. Following up the researches of Bischoff and Fränkel, who have investigated bacterial life as occurring in natural water and ice, the Italian physiologist has found the same organisms in hail. He has classified these as belonging to the three orders of sphero-bacteria, micro-bacteria, and desmo-bacteria, the first being the more numerous.

C. M.—The idea is not new.

A SINGULAR CASE OF ECTOPIA OF THE THORACIC AND ABDOMINAL VISCERA.

To the Editors of THE LANCET.

SIRS,—The following case is, I think, worth recording:—

Mrs. A——, aged thirty-six, fourth confinement, labour commenced at 10 A.M. on July 23rd. I was sent for at 3 P.M. On arrival I found a head presenting in the first position; labour progressed rapidly, and the child was born alive at 4.15 P.M. I then found that there was a second child in utero, having also head presenting; the pains came on rapidly, and the child was born alive two minutes after the first, followed almost immediately by the placentæ. The second child presented a very peculiar malformation. The thorax and abdomen were open from the neck to the pelvis, and on each side as far as midway between the sternum and spinal column; the sternum was absent, the lungs and heart were outside the chest, the apex of the heart being directed laterally to the right; the aortic arch gave off four branches, two carotid and two subclavian; the abdominal organs were all lying outside the body. The child lived three hours and a half, during which time the pulsations of the heart could be counted; it never cried, and was somewhat smaller than the first. Both were female children.

I am, Sirs, yours truly,

Aug. 20th, 1887. J. MCAVOY, M.D.

CINCHONA CULTURE IN RÉUNION.

AT the present time, owing mainly to losses on coffee and sugar, planters in most British tropical and sub-tropical colonies—especially in Ceylon and the West Indies—are turning their attention to cinchona cultivation. It may, therefore, be well to call attention to the process followed in Réunion, as described by Mr. St. John in his last consular report from that island. The difficulty of removing the bark from the tree appears to have received a more practical solution there than either in Java or the British colonies. In Réunion the plantations are made in forests at a height of about 4000 ft. At this altitude there exist no high trees, but merely brushwood. Parallel alleys from five to six feet wide are made, and, as far as practicable, in spots sheltered from the winds. These alleys are separated by a range of brushwood 10 ft. thick on each side, which serves to protect the young cinchona plants against the violent winds so common in Réunion. The alleys being made, holes are dug at a distance of 15 ft. apart, 20 in. in diameter, and of the same depth. These holes are then filled with the earth which has been dug up to which some mould is added. This mixture forms at the surface of the soil a convexity, in the middle of which the young cinchona plant is placed and experiences no difficulty in its growth. When it has reached a height of 18 in. care must be taken to cut the roots of the adjoining brushwood which may have found their way into the space reserved for the cinchona. At the end of seven or eight years plants will have reached a diameter of 3½ in., and are ready to be worked. The process then pursued is this:—Towards the month of October, when the sap resumes its upward movement and the bark is more easily detached, the plants are cut at about two inches from the ground. The bark is then taken off and put in the sun to dry. From the stump that remains there soon spring a great number of young shoots, which, when they have in their turn attained a certain size, it is necessary to lop off, only leaving a number of sprigs, which the stump is able to feed conveniently. These have a rapid growth, and at the end of another period of six or eight years a new crop is ready. In this way the cultivation of cinchona once planted can be continued almost indefinitely and at little expense. This is a far more economical method than that employed in Java, and the experiments in Réunion have hitherto proved very successful.

Nostius.—A physician "of right," strictly speaking, is a member or associate of a college of physicians; but a medical graduate of a respected university in actual practice is certainly, in the best sense of the word, a physician, and entitled to be called such, or to call himself such.

Dr. Walters is referred to our annotation on page 1297 in the issue for June 25th of the present year.

Sufferer should consult his medical attendant.

HOW EXAMINATIONS ARE CONDUCTED.

To the Editors of THE LANCET.

SIRS,—At the last examination of the Royal College of Physicians I presented myself and was allotted a certain day for the *viva voce* in medicine, but two or three days later I received another card altering the date to one four days earlier. The examination being over, I am kept waiting till the very last, and then told "that the clerk had forgotten to acquaint the examiners with the fact that the date of my *viva voce* had been changed; but that they would write to me as soon as the examiners brought my medicine papers and reported on them. I go away to the country the next day to wait a week without hearing anything. I then telegraph to the Examination Hall, and have a reply sent to me, saying, "that I have 'passed,' but that if I wish to receive my diploma this time, I must come up to London at once and sign the book." This, of course, I refused to do, and then an affidavit form is sent me, which I fill up and get the diploma. But on returning to London I am met with condolences from my friends, both professional and non-professional, as my name has not appeared in the lists of passed candidates in the medical journals. I think it is most disgraceful that such laxity should exist, and it appears to be common, for a similar occurrence happened to me at the B.S. examination of Durham, when my name was crossed off as having failed when I had passed.

Hoping that the insertion of this letter will aid in preventing such occurrences, I am, Sirs, yours faithfully,

Belsize-square, N.W., Aug. 17th, 1887. F. W. EDRIDGE GREEN, M.B.

THE DUODENUM: A SYPHON TRAP.

To the Editors of THE LANCET.

SIRS,—Kindly permit me to ask the following questions through the medium of your valuable columns regarding Mr. Collier's original article on the above subject:—Is it possible, by taking into consideration the peristaltic action of the duodenum, that it will practically allow a volume of stagnant liquid within its calibre, as it is generally found empty in post-mortem examinations? How are we to account for the fetid gases which are driven upwards in the clinical phenomena called stercoraceous vomiting? I am, Sirs, yours faithfully,

Hucknall Huthwaite, Aug. 25th, 1887. D. G. EVANS.

LANGMORE DEFENCE FUND.

SINCE the publication of the fifth list of subscriptions in THE LANCET of June 11th, a donation of one guinea has been received from Dr. T. L. Rogers, Rainhill, Lancashire. The fund amounts to £168 5s. 6d., and cheques for £158 12s. 6d. have been forwarded by Mr. Eastes to Dr. J. Wreford Langmore. The balance (£9 13s.) is composed of four subscriptions (amounting to £3 3s.) promised but not yet paid to the honorary secretary of the fund, and of the expenditure (£1 5s.) incurred for postage, &c. As Dr. Langmore's expenses at the trial (which were allowed him by the judge, but which the plaintiff, being a person of small means, could not settle) amounted to more than £240, he still has to pay about £80 beyond the amount raised by the subscription. If any gentlemen desire to assist further in defraying this expense, the secretary of the fund, Mr. George Eastes, M.B., 69, Connaught-street, Hyde-park-square, London, W., is willing to receive their subscriptions, and forward them to Dr. Wreford Langmore.

Nemo.—It is obvious that we cannot be responsible for the good faith of all our advertisers.

Studex has not enclosed his card.

"GAELIC MEDICINE."

To the Editors of THE LANCET.

SIRS,—With reference to the notice under this heading in your issue of the 6th inst., and dissenting entirely from your dictum that "impaired eyesight is a very common failing in the Irish recruit," I have pleasure in offering for your kind acceptance the following description of the "Leech in Ancient Ireland," as that is set forth in Dr. Sullivan's learned edition of Eugene O'Curry's "Manners and Customs of the Ancient Irish," vol. i., page 399. Describing the office and emoluments of this functionary, Dr. Sullivan says, that "he appears to have been respectable and eminently practical. The value of cleanliness, of water and fresh air as curative agents, appears to have been thoroughly appreciated [by him], for we are told that the Leech's house, in addition to having a stream of water flowing through it, should have four doors, in order, as the law says, that it may be perceived from all sides. Another object of the four doors was that it might have at least one of them always open, no matter from what point the wind blew, and thus ensure the proper ventilation of the sick chamber. The hot-air bath was used for the cure of rheumatism, which must have been very common, and it is probable that the remains of such baths, which are found here and there throughout the country, indicate the localities where Leechs' houses formerly existed. A physician had (our author says) certain rights over water, he had not only the right, but was in fact obliged to build his house over a running stream, not over a spring. Among the early Irish the Liag or Leech sometimes treated his patient in his own house; he supplied not only medical advice, but medicines and hospital accommodation also. When a man was accidentally or maliciously wounded, he was taken to the house of the Leech, who examined his wounds and gave a certificate to their character, upon which depended the legal liabilities of the person who defended them. If the Leech considered the cure probable, he gave security for the proper treatment of the patient and received in turn security for his fees. These were, of course, paid in kind, as in cows, presents, &c. Thus, four cows and a heifer were paid for the cure of the maim from a king or from those who are of equal value with him; three cows for a maim, for which the fine of infliction would be three cows; a cow and a heifer for a wound, for which six calves are the fine of infliction; a cow and eighteen screpalls (alms or presents) for a wound for which seven calves were the fine of infliction." As an instance of the universality of the practice of cremation, I may be allowed to quote as follows from this same source:—"The numerous urns containing burnt bones, found in the Irish tumuli, prove that at some period cremation of the dead was practised in Ireland." So were "marrow baths" used, at times, by these same Leeches as tonics, and to show the spirit—the ever kindly and merciful spirit—that animated my much maligned and even now much misunderstood countrymen, I may be permitted to add here, in this connexion, that though the Druids—in other words, the medicine-men of Gaul and Britain—sacrificed a man for the recovery of those who were afflicted with a dangerous disease, there is no evidence that the Irish Druids ever did offer or recommend the offering of human sacrifices. I am, Sirs, your obedient servant,

Auriol-road, W., Aug. 21st, 1887. W. CURRAN.

PARALYSIS AFTER DELIVERY.

To the Editors of THE LANCET.

SIRS,—On May 11th I attended Mrs. H—— in confinement. It was a very difficult instrumental delivery, partly due to a pendulous abdomen. She informs me that each time she has required instruments. The recovery was good with the exception of a temporary paralysis of the muscles of the left leg, the patient being unable to walk without support for six weeks after the confinement, when she began rapidly to improve. I treated her with bromide of potassium and friction with counter-irritants. I must add there was slight puffiness of the ankle, and severe pain in the leg, with a sensation of pricking by pins and needles. Might I ask some of your readers to kindly inform me whether this is a common occurrence, and, if so, what is the etiology? I am, Sirs, yours truly,

August 22nd, 1887. VOLZI.

PILL PRESCRIPTIONS FOR MEDICINE CHESTS.

C. T. S. asks an opinion on a little pamphlet which he encloses, to be taken by any passer-by at the American Exhibition. Our opinion is that the name of any practising physician is better withheld from such commercial advertisements, which will not tend to increase public intelligence or the safety of invalids. Not that the prescriptions individually are bad prescriptions; but one man's medicine is another man's poison, and in disease so much depends on individual constitution and circumstances and so little guide is to be found in a particular symptom, that such prescriptions are an evil rather than a good. We decidedly disapprove of advertising sulphate of copper and opium as "anti-diarrhœtic or corrective pills," or opium and antimony, &c., as catarrhal or sudorific pills.

Mr. Fenton.—We have no such information. We doubt there being any, except from quacks.

Inquirer.—The agents are Messrs. Barron and Wilson, 7, King William-street, West Strand, London, W.C.

SWEATING OF THE FEET.

To the Editors of THE LANCET.

SIRS,—In your last issue there is a letter from Dr. Richardson of New-haven, in which he recommends soda for sweating of the feet, which has nearly always a very offensive smell. He also states that there is no specific for this complaint. Now it is well known that borax is a specific for it. I think I must have used it for ten years, and cured numbers of cases by it. I use three drachms of borate of soda to eight ounces of water, and tell the patient to bathe the feet in warm water, and apply the lotion with a sponge every night on going to bed.

I am, Sirs, yours truly,

Clifford-street, W., Aug. 25th, 1887. G. TAYLOR, M.D.

To the Editors of THE LANCET.

SIRS,—Inasmuch as the treatment of sweating feet seems to remain a vexed question, perhaps the result of a little personal experience may not come amiss. For several years I was a martyr to the complaint, trying fairly all the remedies I could hear of, nothing doing any good, but, if anything, becoming worse, until at last I was told that it had grown an established function of the body, and could not be stopped with impunity. However, I was one day recommended salicylic acid, two parts, and burnt alum, three parts, mixed together and well dusted between the toes and upon the feet, after washing them in warm water, to be repeated as often as necessary. At first I did it nightly, but soon learned that it was not necessary to do it so often; then once a week was sufficient, and then not at all. Since, I have tried it many times, and always with success, upon others, and would advise anyone else to do likewise. Needless to add that it improves the comfort of the operation to tie a folded kerchief over the nose and mouth during its performance.

I am, Sirs, yours faithfully,

Aug. 23rd, 1887. GOOD.

Young Student.—The question cannot be answered in the form it is put, for it is a series of questions. We doubt whether the method mentioned is particularly efficacious.

Mr. Masters (Weston-super-Mare).—We can only suggest advertising.

LONDON FIRES.

To the Editors of THE LANCET.

SIRS,—With reference to your annotation at page 336, if you think fit to place before your readers for criticism a scheme to prevent and to extinguish fires that has occupied my thoughts for many years, I shall feel obliged. In rebuilding premises, now destroyed or erecting new buildings, let the walls of each room be hollow with a layer of perforated bricks placed every three or four feet and in connexion with a properly constructed chamber, the size of which must be regulated according to the extent of the building or buildings, the pipe or pipes leading from the chamber to the building being each capable of ready closure or opening. The chamber itself must always be full of chalk and water, a separate reservoir of hydrochloric acid being so arranged that it may be poured into the chalk and water at a moment's notice. By the aid of a steam engine the gas, mixed with air, robbed of its oxygen by passage over incandescent coke, is then pumped into the burning building, through the hollow walls, or by proper pipes if the walls be not hollow; separate hoses leading from the reservoir of carbonic acid gas being provided for the firemen's use, who, protected by Fleuss's helmet or similar apparatus, can work unharmed in the vitiated atmosphere. Were the men encased in perforated leather dresses so arranged that carbonic acid gas could be forcibly ejected through the perforations, they could walk into the fire unharmed. Had some modification of this scheme been at hand on board the steamship *City of Montreal* the terrible fire would have been extinguished in a few minutes. Fires could thus be extinguished without damage to goods around; and even if water be needed, that charged with carbonic acid gas would be infinitely more effectual.

I may say that on the occasion of each great fire a trial of the above scheme has been in vain solicited.

I am, Sirs, yours truly,

Boundary-road, N.W., Aug. 1887. RICHARD NEALE, M.D. Lond.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Harkin Belfast; Sir E. H. Currie, London; Dr. Neale, London; Mr. Curran, London; Dr. Lewers, London; Dr. Slight, London; Dr. Kay, London; Mr. J. W. Smith, Buffalo; Mr. C. H. Milburn, Hull; Messrs. McGee and Co., Belfast; Mr. Goodridge, London; Mr. Labban, West Bromwich; Mr. Sturmfels, London; Dr. Lethers; Messrs. Bath and Co., London; Mr. Waddington, Bradford; Mr. Ash; Dr. Adam, West Malling; Mr. Bunyon, London; Mr. Hoar, Maidstone; Mr. Bull, New Cross; Mr. Hurst, Hammersmith; Mr. Stump, London; Messrs. Boyd and Co., Belfast; Mr. Reid, Wellington; Dr. Waterhouse; Dr. Beaven Rake, Trinidad; Messrs. Thompson, London; Mr. Mackenzie, Farnmouth; Mr. Brittain, Bangor; Mr. Borene, London; Dr. Milliman, Ontario; Mr. Stamp, Hereford; Mr. Burdett, London; Mr. Hancock, London; Mr. Maythorn, Biggleswade; Dr. Spencer, Clifton; Dr. Cole, Woodview; Dr. Hutchinson, Scarborough; Messrs. Ismie, Imray, and Co., Liverpool; Mr. Masters, Weston-super-Mare; Messrs. Ingram and Co., Hackney; Dr. Cran, Lakhimpur, North; Rev. H. Hawkins, Colney Hatch; Mr. Patterson, Leeds; Mr. Brown, London; Dr. H. L. Jones, London; Dr. Richardson, London; Dr. Steeves, Liverpool; Mr. A. Campion, London; Mr. Arnold, Providence, U.S.A.; Dr. Carter, Bombay; Mr. Fenton, Colchester; Dr. Laguer, Wiesbaden; Dr. Richards, Bengal; Mr. Casey, Oldham; Mr. Carter, Stockport; Mr. Hardwicke, London; Dr. Philip, Boulogne; Mr. Church, Streatham; Mr. Jones, Wrexham; Dr. Brown, Penang; Dr. Walker, Worksop; Mr. Douglas, Sunderland; Mr. Bischof, London; Mr. Hadi, London; Mr. Colville, Melbourne; Dr. Francis, Northampton; Messrs. Maclachlan and Co., Edinburgh; Dr. McAvoy, Rathfriland; Messrs. Robertson and Scott, Edinburgh; Rev. A. Robbins, Windsor; Dr. Morgan, Ebbw Vale; Dr. Meany, London; Dr. Walters, London; Messrs. Blake and Co., Leeds; Mr. Fenwick, London; Mr. Hughes, Deal; Messrs. Irvine and Co., London; Dr. Pullin, Sidmouth; Mr. Flynn; Messrs. Reynolds and Co., Leeds; Mr. Scott, Twickenham; Dr. Lambart, Liverpool; Mr. Menzies, Johnstone; Mr. Evans, Hucknall Huthwaite; Studeo; H. B., Southport; P. P.; Matron, Canterbury; C. M.; Nemo; A. B., Southport; Volai; C. T. S.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Beale, Brighton; Dr. Martin, Aderbury; Mr. Dewar; Messrs. Turner and Marshall, Leith; Mrs. Topham, Stoke-on-Trent; Messrs. Hewlett and Son, London; Mr. Campbell, Jarrow-on-Tyne; Messrs. Warren and Co., Bristol; Mr. Gray, Walsall; Mr. Kershaw, Leeds; Mr. Chadwick, Lancaster; Mr. Bowser, London; Mr. Waters, Tenberth; Mr. Pearcey, Taunton; Mr. Macfadyen, Inverness; Mr. Allwright, Maidenhead; Mr. Oldham, Liverpool; Capt. Pead, Dulwich; Dr. Milligan, Tottenham; Mr. Townsend, Exeter; Dr. Fogerty, Limerick; Mr. Macleod, Edinburgh; Mr. Williams, Huddersfield; Messrs. Thompson and Co., Liverpool; Mr. Parker; Mr. Bond, Leicester; Mr. Frankel, Cape Town; Mr. Bagshore, Salford; Mr. Heffernan, Liverpool; Mr. Smith, Hastings; Mr. Gwyther, Bristol; Mr. Kennett, Hythe; Mrs. Smith, St. Helens; Mr. Griffith, Canterbury; H. A., Delpeth; Carnabyn; Matron, Plymouth; Medicus, Pontypool; L., Aberdeen; G. T. O., Newcastle; Colonel, Dursley; M.B., Blackburn; B. H. A.; Medicus, Brighton; M. R. J.; Verax; A. B., Chiswick; C. B., London; F. H., Bestwood; A. B., Stamford-hill; H.

Liverpool Mercury, Manchester Guardian, Globe, Bucks Herald, Standard, Aberdeen Weekly Free Press, &c., have been received.

Medical Diary for the ensuing Week.

Monday, August 29.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.

Tuesday, August 30.

GUY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.

Wednesday, August 31.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9 A.M.; Saturday, same hour.

Thursday, September 1.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Friday, September 2.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, September 3.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

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